

Urban Farming on the Fringe:
The State of Urban Agriculture in Four Cities
of the Milwaukee Metropolitan Region

By

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TABLE OF CONTENTS

I.	Introduction	1
II.	Literature Review	6
	A. Food Systems Background	6
	Rising Interest in Food Systems	6
	Food Production: An Essential Component	9
	The Urban Agriculture Movement	10
	Benefits and Drawbacks of Urban Agriculture	11
	B. Zoning and Land Use Tools to Promote Food Production	13
	Comprehensive Planning	14
	Traditional Zoning	16
	Agricultural Overlay Districts	20
	Land Access Programs	21
	Farmland Preservation Programs	22
	Food Policy Councils	24
	C. The Rise of Urban Agriculture in Postindustrial Cities	25
	Buffalo, New York	26
	Detroit, Michigan	27
	Trenton and Newark, New Jersey	27
	D. The Growing Importance of the Region in Food Systems Research	28
	Increasing attention to regional food systems	30
	Inherent challenges of regional food system policy	31

III.	Methodology	33
IV.	Results	41
	A. Racine Case Study	41
	B. Waukesha Case Study	52
	C. Mequon Case Study	60
	D. West Bend Case Study	65
	E. Summary of Food Policy Audit Results Across Case Studies	72
V.	Analysis and Discussion	74
VI.	Implications for Further Research	87
VII.	Bibliography	89
VIII.	Appendix A: Tables of Results	100
IX.	Appendix B: Interviewees	113
X.	Appendix C: Institutional Review Board Approval	115
XI.	Appendix D: Interview Consent Form	116
XII.	Appendix E: Interview Protocol	118
XIII.	Appendix F: Interview Questions	120

I. INTRODUCTION

Researchers, activists and consumers agree that a new way of thinking about food and agriculture has swept the United States in recent years. This wave of interest—collectively referred to as the local food movement or the food systems movement, among many other things—concerns the production, processing, distribution, and consumption of food and the reclamation of food waste. A variety of reasons have been offered for this newfound interest in food systems, from increasingly urgent environmental concerns to significant economic events like the foreclosure crisis and ensuing recession of 2008. Whatever its source, academic and popular interest in food and agriculture continues to grow across the U.S. with no sign of abating.

Food production is an essential component of any food system; indeed, it is the key that sets all the other parts in motion. Prior to the current local food movement, many urban and suburban residents were unaware of where, how, and by whom their food was produced. This was largely an intentional result of city planning. As cities grew larger, denser, and more complex, agriculture was increasingly considered out of place in the urban context. A host of agricultural activities, from livestock butchering to urban gardening, were viewed as nuisances and pushed to the city perimeter and beyond. As a result, urban and suburban residents were effectively divorced from their previously intimate knowledge of their food system.

But with today's local food and urban agriculture movement, consumers of all types are yearning to recapture that food system knowledge once again. They are actively demanding the answers to where, how, and by whom their food is produced, and more and more often the answer is "right here." Community gardens are flourishing across the

nation. Hoophouses are springing up on vacant lots and in public parks. Backyard gardeners are harvesting eggs from their own small flocks of chickens. Neighborhood organizations are hosting farmers' markets, mobile food trucks, and teen training programs in agriculture. Food activists are organizing food foraging excursions everywhere from street rights-of-way to public parklands. The list goes on as communities continue to discover new and exciting ways to incorporate local food and agriculture into their urban habitats.

Urban agriculture provides a host of environmental, economic, cultural, and public health benefits to communities. It has been credited with creating employment opportunities, keeping more money in the local economy, creating a sense of community and purpose in otherwise struggling neighborhoods, decreasing crime, and promoting healthier lifestyles through physical activity and more nutritional eating habits. Many—if not all—of these also coincide with municipal objectives, and local governments have begun to take notice.

Across the nation, local governments of all sizes have seized the opportunity to encourage the popularity of the local food and urban agriculture movement. From Portland, Oregon, to Austin, Texas, Boston, Massachusetts, and everywhere in between, cities are transforming their foodscape. They are able to do so because local governments hold the keys to the laws, regulations, and policies that can enable local food production: land use planning, policy, and zoning. Space to grow food is frequently the limiting factor in communities interested in urban agriculture. Through zoning and land use regulations and policies, local governments decide how space within their borders is

used. This positions local governments as crucial, necessary players in the success of the local food and urban agriculture movements.

Local governments have started to use a variety of new tools to encourage urban agriculture, and to remove a variety of common barriers that had been stunting the growth of the movement. They are amending zoning ordinances to allow backyard chickens, beekeeping, and aquaculture. They are amending building code requirements to allow for greenhouse and hoophouse structures in multiple zones. They are renting and even selling city-owned land to community agriculture groups and permitting the creation of rooftop gardens. Many of these developments come about at the request of engaged communities and residents pushing for change.

With so many municipalities beginning to actively promote the local food and urban agriculture movement, an expansive literature has developed. This literature focuses on major urban cities or neighborhoods within them, like New York City, Boston, Baltimore, Chicago, and Milwaukee, to name just a few. The research again and again examines the growth of agricultural activities in the densest urban core, stopping at the city boundary line and ignoring the fact that each of these cities sits within a larger metropolitan region. They are each surrounded by often less densely populated municipalities with engaged communities and more open space. The picture of local food and urban agriculture in these communities remains unexamined.

At the same time, much food systems research has started to discuss the importance of the region as opposed to the local. This growing body of scholarship posits the theory that regional food systems may be the more balanced and sustainable scale for food systems. They argue that even with the most progressive land use policy and zoning,

dense urban cores will never be self-sufficient in food production—but regions may be. Developing regional food systems is inherently difficult because a region is neither easily defined (there is no physical definition) nor self-governed (regional governments are non-existent). Nonetheless, this increasing emphasis on food systems within regions calls for a closer examination of what is currently happening in metropolitan regions, beyond the major city limits.

This thesis examines local food production and urban agriculture in four cities of the Milwaukee metropolitan region: Waukesha, West Bend, Mequon, and Racine. More specifically, it (1) examines what city laws, regulations, and policies are in place to promote urban agriculture, and (2) combines that data with interviews of practitioners and activists to posit each city's experience in a regional food system context. Its purpose is to begin building a foundation of knowledge of food systems surrounding dense inner cities, starting with the Milwaukee region. In doing this, it contributes to the broader literature portraying food systems in a regional context.

Part One explores the existing literature on food systems and food production in urban settings. It first details the recent evolution of food system and local food production practice and research. Next, it considers the rising role of local governments in food system analysis and planning, including the multitude of tools available to them to promote food production. It then considers the growing importance of the region in food systems research. Lastly, it reviews several existing case studies of urban agriculture in Rustbelt cities similar to Milwaukee: Buffalo, New York; Detroit, Michigan; and Trenton and Newark, New Jersey.

Part Two details the methodology utilized for the case studies of Waukesha, West Bend, Mequon, and Racine. Part Three analyzes and discusses the results of each case study. This section summarizes the laws, regulations, and policies in place in each city, focusing on the perspectives of city officials, urban agriculture practitioners, and advocates. Part Four will compare, contrast, and draw conclusions across the four case studies, and discuss their meaning in the regional context. The thesis will conclude by offering recommendations for further research in the field.

II. LITERATURE REVIEW

A. Food Systems Background

Rising Interest in Food Systems

Food and agriculture have played a tremendous role in the history of the United States. From the earliest settlers landing in the East to the pioneers' steady expansion of the West, agriculture has been a formative part of the American experience. Food and agriculture were necessarily local in the early days due to the inherent limitations on food production, processing, and distribution. With the dawn of industrialization, however, that radically changed. The increased capabilities and efficiencies of industrialization allowed expansion and maximization of all sectors of the food chain, from better chemicals and farm machinery for food production to the use of refrigeration to enhance the time and distance food could travel to reach consumers. For the first time, food systems grew from the modest local and regional scales to the national and even international scales. (Hamilton et al., 2012)

Though industrialization spawned clear advances in feeding a booming population, it has also been linked to deterioration of the environment, local economies, and public health. The current United States food system has been variably labeled "conventional," "corporate," or "agro-industrial" (Caton-Campbell, 2004; Donald et al., 2010). It is commonly characterized by business profit-maximizing interests, including

efficiency and externalized costs: highly specialized and standardized commodity growing practices dependent on biotechnology advances; federal and corporate support for large-scale conventional agriculture and

agricultural research at land-grant universities; corporate control—known as vertical integration—of raw agricultural materials produced, their transformation into food products, and their distribution and marketing; reliance on food imports and exports that travel enormous distances to reach consumers; and emerging global food monopolies in biotechnology and seeds, commodities, and food retailing (Caton-Campbell, 2004, p. 344-345).

Increasingly, researchers, consumers, and advocates have acknowledged that this system has not effectively provided a nutritious, sustainable and equitable supply of food to the world's population (Donald et al., 2010). Significant events like the food price crisis of 2008 and frequent industrial-scale food safety scares further the notion that the current predominant food system requires reform. As a result, interest in food systems and food system research has resurged in the academic literature and in the popular culture (Caton-Campbell, 2004).

While the term “food system” sounds deceptively simple, the growing body of scholarship on food and agriculture has revealed just how complex a term it is. A food system includes “all the activities involved in producing, processing, transporting, storing, selling, consuming, and disposing of food...[including] all of the infrastructure and processes needed to feed a population, as well as the inputs and outputs generated along this chain” (Hamilton et al., 2012, p. 20). This comprehensive view of food accounts for the overwhelming number of actors and influences that come into play between a farm field and the dinner table. Accordingly, food systems impact everyone because everyone must consume food to live. Yet despite their absolutely essential

nature, food systems remained outside the traditional purview of planning professionals and municipal governments until recent years.

As early as 1999, researchers began to suggest that the planning profession should be responsible for food systems planning and a variety of new ways emerged for municipalities to address food system challenges through their planning process.

Pothukuchi and Kaufman (1999) proposed that municipal departments of food, local food policy councils, and municipal planning departments should be responsible for pursuing food system objectives. Of the three, only municipal planning departments existed at the time; departments of food were non-existent and food policy councils were a radically new idea. Only 15 food policy councils existed in the United States at that time, most of which had been very recently established.

In the years following Pothukuchi and Kaufman's groundbreaking work, food policy councils became an increasingly common tool in municipalities around the country. They are just one example of the many methods by which municipalities have begun to engage in food system analysis and planning. A major step forward came in 2007, when the American Planning Association issued a formal Policy Guide on Community and Regional Food Planning. In it, the APA acknowledged that the planning profession should assume a responsibility for food system planning (APA, 2007). The Policy Guide recommends general policies to promote community and regional food systems planning and credits the planning community's "change of heart" to eight important factors¹. With that and many other developments, food systems and food

¹ "[1] recognition that food system activities take up a significant amount of urban and regional land, [2] awareness that planners can play a role to help reduce the rising incidence of hunger on the one hand, and obesity on the other, [3]

system planning have now taken their place among the important obligations of local governments and land use planning professionals.

Food Production: An Essential Component of Food Systems

Food production is the first and most crucial component of a food system, the link in the chain that sets all the other parts in motion. Food production may be accomplished in many places, at many different scales and by employing many different practices. Within the local food system movement, local food production plays a central role. In many communities, it is the simple act of growing food that spurs community awareness, empowerment, and activism. Local food production may take place in backyards, in vacant lots, in community gardens and neighborhood parks, or even on rooftops. The broad range of scales and forms that food production can take calls for an equally broad range of tools to enable them. This thesis examines the specific municipal laws, regulations, and policies that work to enable food production, focusing on the local scale in an urban context.

understanding that the food system represents an important part of community and regional economies, [4] awareness that the food Americans eat takes a considerable amount of fossil fuel energy to produce, process, transport, and dispose of, [5] understanding that farmland in metropolitan areas, and therefore the capacity to produce food for local and regional markets, is being lost at a strong pace, [6] understanding that pollution of ground and surface water, caused by the overuse of chemical fertilizers and pesticides in agriculture adversely affects drinking water supplies, [7] awareness that access to healthy foods in low-income areas is an increasing problem for which urban agriculture can offer an important solution, [and 8] recognition that many benefits emerge from stronger community and regional food systems” (APA, 2007, p. 1).

The Urban Agriculture Movement

Local food production in an urban setting is commonly referred to as “urban agriculture” in the existing literature. While some authors use the term to refer to a “spectrum of food interests” from production to consumption (Berg, 2014, p. 785), this thesis uses urban agriculture to describe the activities and physical factors, from input to output, required for local food production in a non-rural setting.

Urban agriculture is not a new concept in the United States. In fact, urban agriculture is quite embedded in U.S. culture but its prevalence has waxed and waned over the years depending on the predominant needs and concerns of society (Maloney, 2013). The urbanization of the nineteenth century pushed agricultural activities to city edges and beyond, as urban land was increasingly called to “higher and better” uses (Maloney, 2013, p. 2558). At the same time, public markets became more common and urban residents relied less and less on their own means of food production. This continued until the recession of the late 1800s, when economic necessity precipitated resurgence in cultivation of urban lots and school gardens. From that point on, interest in urban agriculture has largely coincided with incidents of economic downturn and wartime necessity—namely, the Great Depression, World War I, and World War II.

For example, the Victory Garden movement of World War II was one of the most notable periods of urban agriculture resurgence. At that time, federal and local governments promoted household victory gardens as a means of responding to food shortages and supporting the war effort; food self-reliance allowed precious food resources to be sent to the men fighting overseas. However, the economic boom following World War II quickly reprioritized vacant lots and community gardens for

housing and development (Maloney, 2013). Similar surges and falls in popularity have characterized urban agriculture throughout U.S. history.

The current rise in interest in urban agriculture similarly coincides with an economic recession. However, its popularity is likely due not just to that but to a convergence of many factors, including discontentment with the international, industrial-scale food system (as summarized in Part I above) and increasing health and environmental concerns (Mukherji, 2009). For example, one 2009 survey of home food gardeners² showed the top motivations for gardening were “to grow better tasting food,” “to save money on food bills,” and “to grow better quality food,” and “to grow food I know is safe” (Butterfield, 2009, p. 9).

Benefits and Drawbacks of Urban Agriculture

Urban agriculture today is credited with a host of public health, environmental, and economic benefits (Voigt, 2011). From a health standpoint, urban agriculture improves both the quality and price of food available in urban areas because food traveling from far away “loses much of its nutritional value in transit and storage” (Voigt, 2011, p. 543). By enabling urban residents to enjoy fresher, more local foods in the city, urban agriculture may boost the nutritional health of cities. Food security is also enhanced by urban agriculture. Many low-income urban residents live in food deserts, or areas “devoid of supermarkets but dotted with fast-food restaurants and convenience stores” where access to fresh, unprocessed food is limited (Maloney, 2013, p. 2562). The rise of farmers’ markets and farm stands and the growing incorporation of local fresh

² Note: This survey was not limited to urban food gardeners, whose motivations may vary.

foods in convenience stores are all ways urban agriculture can address food security in urban food deserts.

Urban agriculture also benefits the environment, reducing the number of miles food must travel to reach consumers and thus cutting down on fossil fuel consumption and contributing to cleaner air (Voigt, 2011). In addition, urban agriculture can specifically contribute to a cleaner urban environment by reducing storm water runoff and other urban pollution and mitigating urban heat islands (Maloney, 2013). Though sustainable or organic farming practices are not necessarily a prerequisite of urban agriculture, “urban farmers also frequently employ sustainable techniques to ensure closed-system farming, transforming wastewater and other agricultural byproducts into recycled resources to be used again” (Maloney, 2013, p. 2565).

The potential economic benefits of urban agriculture are widely touted. In an urban setting, vacant lots are prevalent and often offer little economic potential (Voigt, 2011). The simple greening of these spaces by urban agriculture can counter the blight of urban decay, increasing surrounding property values, boosting tax revenues, and decreasing the cost of property maintenance and crime prevention services (Maloney, 2013). Locally grown and distributed foods may also increase the amount of money circulating in the local economy, with more money making its impact close to home.

The urban agriculture picture is not entirely rosy, as a growing number of scholars have pointed out. Some potential negative impacts of urban agriculture include: overuse of fertilizer and pesticides in confined places (i.e. urban neighborhoods) where they are more likely to concentrate; contamination by industrial and other urban uses in proximity to urban agriculture; and unwelcome sounds and smells, particularly due to livestock and

farming equipment (Maloney, 2013). Much urban land is already contaminated due to its historical industrial use or runoff from roads, parking lots, roofs, and other impermeable surfaces, which serve as potential threats to human health if farmed (Mogk, 2010).

B. Zoning and Land Use Tools to Promote Food Production

As many scholars have noted, urban agriculture is not a result of municipal land use planning; instead, it is a movement that developed in spite of planning (Thibert, 2012). Because of this, many municipalities feel challenged by the void of existing laws, regulations, or policies to deal with urban agriculture. In the alternate view, however, municipalities often have an open slate from which to respond with law and policy where the urban agriculture movement demonstrates areas of need (Thibert, 2012).

One of the earliest and most immediate needs often put forward by practitioners of urban agriculture is the need to make local land use and zoning laws and policies compatible with urban agriculture objectives. Indeed, some have described land use and zoning as the “low-hanging fruit” of food systems (Caton-Campbell, personal conversation, February 25, 2015). As such, land use and zoning have become an important access point for activists and practitioners to engage municipalities in food system reform.

Municipalities are both landowners and land use regulators (Thibert, 2012). As landowners, municipalities maintain ownership of urban spaces where agriculture may occur, like tax-delinquent properties, public parks, utility corridors, or the rooftops of publicly-owned buildings. The amount of municipally owned property available for urban agriculture has become even more substantial following the 2008 foreclosure crisis, when many tax-delinquent lots reverted to local government ownership (Thibert, 2012).

As land use regulators, municipalities set law and policy that determines whether and how public and private land may be used for agricultural purposes within municipal boundaries. This positions municipalities as key actors in the food system, able to either support or suppress agricultural activities (Caton-Campbell, 2004). The following is a non-exclusive list of these tools and how they may be adapted to promote urban agriculture.

Comprehensive Planning

A practical municipal starting-point for addressing local food policy concerns is through a municipality's comprehensive plan (Mukherji and Morales, 2010). Comprehensive plans outline a community's "long-range goals, objectives, and strategies to address the challenges and guide the future growth and development of a community" (Hamilton et al., 2012, p. 74). They are a visioning tool to enable lawmakers and policymakers to identify and shape future solutions to the municipality's current and projected land needs (Maloney, 2013). In some states, like Wisconsin, comprehensive plans are a mandatory requirement for municipalities.

Because comprehensive plans deal so intricately with the land use decisions of the community, they are a natural place to identify local food system and agriculture objectives as well as strategies for attaining those objectives. Comprehensive plans may explicitly establish urban agriculture or local food policy as local priorities. Such "foodshed policies" frequently prioritize the use of land for urban agriculture (Berg, 2014). For example, Seattle's 2005 comprehensive plan mandates at least one community

garden for every 2,500 households in an urban village or neighborhood (Mukherji and Morales, 2010, p. 4).

Comprehensive plans do have some inherent limitations. First, drafting, passing and implementing a comprehensive plan is an extremely complex—and often long—process. This is especially the case because a local government will want to incorporate stakeholder input into the process. Second, the effectiveness of a comprehensive plan “depends on the municipal government to adhere to its policy recommendations, to follow through on [its] proposed projects and initiatives, and to monitor and evaluate progress over time” (Hamilton et al., 2012, p. 75). In essence, once established, a comprehensive plan is a long-term commitment. The local government must revisit the plan frequently to ensure its relevance and effectiveness. It must propose laws and regulations that promote the plan’s objectives, and eliminate laws or regulations that directly contradict those objectives.

While goals and objectives for food production and urban agriculture can be laid out in traditional comprehensive plans, they can also be found in innovative new formats. The Office of Environmental Sustainability for the City of Milwaukee, for instance, recently completed a sustainability plan for 2013 through 2023 titled “ReFresh Milwaukee: A Vision for Community Sustainability.” This plan, collaboratively authored by governmental and non-governmental stakeholders, names three food system goals for the city:

- (1) Set a city-wide food system policy and action agenda,
- (2) improve institutional capacity and leadership to enhance the sustainability and resilience of Milwaukee’s food system, and

(3) increase demand for and access to locally and/or sustainably grown healthy and nutritious food (City of Milwaukee Office of Environmental Sustainability, 2013, p. 32).

Traditional Zoning

The local zoning code is another fitting place for laws and policies that promote local food systems. Zoning has become a common tool for communities seeking to raise the profile of local food systems and urban agriculture. In fact, Caton-Campbell (2015) has called zoning the “low-hanging fruit” of local food systems because it so commonly serves as a starting point for urban agriculture activists.

Most municipalities with zoning authority utilize a use-based zoning code, which “divide[s] the jurisdiction into distinct districts, such as residential, commercial, multi- or mixed-use, and industrial, and regulate[s] the use and development of the land within the districts based on the designation” (Wooten and Ackerman, 2011). Within each designation, certain uses are permitted “as-of-right,” others are permitted conditionally, and others are expressly prohibited. An as-of-right use (also called a permitted, approved, or by-right use) is a land use explicitly listed as acceptable for the district in the zoning code. For instance, a single-family home lot may be permitted as-of-right within a residential zone provided that the plans and specifications comply with those set forward in the zoning code; a landowner would not need to seek special permission to put her land to that use. A conditional use, on the other hand, is one that *may* be allowed in a designated zone, subject to certain conditions. For instance, a small flock of backyard chickens may be acceptable in a residential neighborhood as long as the landowner

obtains a permit, restricts the total number of chickens, and does not keep roosters.

(Wooten and Ackerman, 2011; Mukherji and Morales, 2010)

Some uses, called incidental or accessory uses, are allowed only in connection with a particular primary use designation (Wooten and Ackerman, 2011). For instance, a detached two-car garage may be permissible only if the primary use of the land is residential. Specific to the urban agriculture community are small outbuildings like toolsheds, which may be allowed as acceptable accessory structures only in certain zones.

Mukherji and Morales (2010) have proposed that municipalities begin by thinking of agriculture as composed of four categories based on two dimensions: intensity of space and intensity of practice.

	Intensive in practice	Less intensive in practice
Extensive in area	Rural or peri-urban farms and associated agricultural activities	Backyard and community gardens, limited livestock, and farm stands
Less extensive in area	Urban farms, farmers markets, and composting operations	Backyard and community gardens

Mukherji and Morales (2010)

They argue that thinking in this framework better allows planners to perceive the needs of both the community and the agricultural practitioners, better accommodating where and what type of agricultural practice will be most appropriate. For example, if a community is densely populated and lacks open space for traditional large-scale agricultural operations, planners would best spend their time focusing on laws and regulations that enable the “less extensive in practice” activities. These may be spatially concentrated urban farms, farmers’ markets, or composting facilities.

Beyond adding allowances for agriculture, zoning authorities may also remove existing intentional or unintentional zoning impediments to urban farming. Many such restrictions were implemented with the advent of land use planning, when urban planners sought to distinguish urban from agricultural environments for various reasons of sanitation, aesthetics, and convenience. They include restrictions on the raising of livestock, from bees to chickens to fish aquaculture; the ability to process and market agricultural products in certain places; the permissible height and location of vegetative growth; and the use of temporary or moveable structures such as hoopouses and produce washing stations (Voigt, 2011; Salkin and Lavine, 2011).

In some cities, unintentional ambiguity in the zoning code has led to amendments in order to better facilitate urban agriculture. Bloomington, Indiana, for example, had not specifically prohibited agricultural activities but had failed to refer to them at all (Mogk et al., 2010). This left urban residents uncertain of what was or wasn't allowed within their zoning districts. In 2009, the city amended its code to specifically allow "food growing activities" as-of-right in residential zones. That term was further defined as both urban agriculture and community gardening, which were also further developed in the code (Mogk et al., 2010).

The City of Milwaukee recently updated its zoning code to make it more conducive to the urban agriculture community's objectives (Heart, 2015). A citywide sustainability audit by the City of Milwaukee Office of Environmental Sustainability (OES), titled "ReFresh Milwaukee," revealed numerous barriers to urban agriculture in the city's zoning. One express goal of ReFresh Milwaukee was to "remove obstacles to developing new real estate disposition strategies, repurpose residential properties to non-

residential uses, expand urban agriculture uses on vacant lots, and establish micro-business ventures in local food supply chains” (Heart, 2015, p. 2). The Departments of City Development and Neighborhood Services collaborated with OES to bring about the necessary changes in the zoning code. Ultimately, the city amended the code to

- divide and clarify the existing definitions of “raising of crops” and “raising of livestock” to provide better certainty of which practices are allowed or prohibited,
- define specific types of agricultural uses and where they are allowed, including personal gardens, community gardens, and commercial farming enterprises, and
- permit certain types of accessory structures to support community gardens and commercial farming enterprises, subject to height, area, and setback restrictions (Heart, 2015).

By engaging a collaborative process across city departments and community groups, OES was able to reach these significant results while fostering understanding between local government and the urban agriculture community.

Agrotourism is a significant, but often overlooked, facet of urban agriculture that may be affected by zoning or other land use regulations. Many agricultural businesses, organizations, and projects seek to integrate “tourism” activities beyond the actual production and sale of food. Some examples of these include “u-pick sales, farm mazes, pumpkin patches, farm animal petting zoos, wagon rides, farm tours, cider presses, classes and workshops, and tasting events” (Salkin and Levine, 2011, p. 626). Existing zoning ordinances may inadvertently prohibit such endeavors (Salkin and Levine, 2011).

Relying on zoning for urban agriculture may have its drawbacks. For many, the process of creating, implementing, or changing zoning ordinances is obscured. Local food activists may not feel fully engaged in the process, or may lack the political power to bring about adjustments to unfriendly ordinances. In addition, the long and complex process can produce discouraging results. “If a municipality fails to clearly define the objectives, uses, and scale of an ordinance, the regulation can become diluted and difficult to enforce,” losing effectiveness on the ground (Hamilton et al., 2012, p. 76). Because of this, zoning may be just one of several tools a community uses to promote its local food system.

Agricultural Overlay Districts

Some cities, like Boston, Massachusetts, and Cleveland, Ohio, superimpose urban agricultural overlay districts over otherwise traditionally zoned areas of the city, creating entire districts where urban agriculture and related activities are permitted as-of-right (Hamilton et al., 2012). For instance, an urban agricultural overlay district may encompass parts of certain residential and commercial zones on the city zoning map. While each zone’s traditional characteristics remain in place, the overlay district permits additional uses or activities within its boundaries like composting, beekeeping, and aquaponics. While these types of urban districts create greater potential for food production within city boundaries, they are generally more restrictive than rural agricultural districts (Mukherji and Morales, 2010).

In contrast to urban agricultural overlay districts, rural agricultural overlay districts are a method of preserving peri-urban and rural agricultural land from

development. While their urban counterpart is meant to allow additional agricultural uses on otherwise non-agricultural land, rural overlay districts are meant to discourage non-agricultural uses on what has been identified as prime agricultural land. For instance, the agricultural overlay district in Amherst, Massachusetts, requires clustering of any development within the district, thus reducing the fragmentation of agricultural lands. (Hamilton et al., 2012)

Land Access Programs

Land availability is a necessary component of all agriculture, and one with which many metropolitan areas struggle (Mogk et al., 2010; Berg, 2014). A wide variety of tools are frequently adopted to ensure adequate land is available in urban and peri-urban settings. Many cities lease city-owned vacant lots to urban farmers or community groups (Mogk et al., 2010). Others, like Seattle and Des Moines, allow limited gardening in rights of way and city-owned planting strips (Berg, 2014). Still others have begun to offer community garden space in public parks through city-run initiatives (Maloney, 2013).

Urban land is often prohibitively expensive for community gardening groups, local food activists, or individual farmers. Land banking is an increasingly common tool for re-purposing blighted urban properties for food production while promoting land ownership. A land bank is “a governmental entity that takes title to tax-delinquent property, secures the property, and transfers it back to private ownership with a clear title, so that the property can be put to productive (and tax-paying) use” (Wooten and Ackerman, 2011, p. 11). However, not all land banks’ ultimate goal is to convert property back to private ownership; some choose to hold the land and offer long-term leases

instead. By facilitating the transition from a foreclosed property to a property owned by local food system players, the city accomplishes several purposes: (1) relieving urban blight, (2) ensuring future tax collection from the property, and (3) supporting local food production. Cities may also “pool together” tax-delinquent properties to make them better suited to new development. For example, the City of Cleveland’s Land Reutilization (Land Bank) Program encourages the purchase of its lands for agricultural uses, offering a discounted price to applicants with that intention (City of Cleveland, Ohio, 2014).

Farmland Preservation Programs

Most metropolitan areas are surrounded by land that could be utilized for agriculture. However, much of that space is subjected to the development pressures that produce suburban sprawl. Recognizing that, most states have enacted some type of legislation to promote farmland preservation, which can have a significant impact on the availability of land for agricultural use near metropolitan areas (Szlanfucht, 1999).

Farmland preservation programs take a variety of forms. Some penalize the development of farmland. A primary example of this is the assessment of additional “impact fees” for converting farmland to non-agricultural uses. Other programs incentivize the preservation of farmland through tax relief. This includes directly reducing the assessed value of prime farmland for tax purposes, or providing tax relief for land placed under a conservation easement. (Szlanfucht, 1999).

For example, in 2009, Wisconsin experienced an overhaul of its then 30-year-old farmland preservation legislation (Matson, 2009). The new legislation, called the Wisconsin Working Lands Initiative, utilizes a range of mandates and incentives for

preserving farmland. Each county must update its required farmland preservation plan, which must identify areas of the county where land must be reserved for agricultural and related uses. Farmers are provided a more simplified process for claiming income tax credits for keeping farmland in agriculture within those identified areas. Localities can petition the Department of Agriculture, Trade, and Consumer Protection to designate “agricultural enterprise areas,” where farmers can establish farmland preservation agreements in exchange for tax credits. Finally, the Initiative enables the state to purchase agricultural conservation easements from willing private landowners. (Matson, 2009). Unfortunately, the funding for much of the Wisconsin Working Lands Initiative has faced considerable budgetary pressure under Wisconsin’s current legislative climate (Vanegeren, 2011).

Some cities pursue farmland preservation by encouraging partnerships with community or conservation land trusts whose purpose is to make land available for agricultural use (Berg, 2014). For example, Milwaukee Urban Gardens is a non-profit land trust that supports community garden projects in Milwaukee by “negotiating long term lease agreements with the City of Milwaukee, buying properties to preserve them from development, and assisting with permits for water from city hydrants” (Milwaukee Urban Gardens, 2014). Still other municipalities have implemented purchase or transfer of development rights programs to discourage development in an agricultural area in favor of denser development elsewhere (Harvard Law School Food Law and Policy Clinic, 2012).

Food Policy Councils

Food policy councils are an increasingly common tool for addressing food system policy issues, including local food production (Mukherji and Morales, 2010). While they are not strictly a land use or zoning tool, their work encompasses food production and can influence land use and zoning decisions in their communities. Food policy councils are groups of people “dedicated to researching and analyzing regional food systems, ...mak[ing] policy recommendations that stimulate state, city, and independent action that will enhance and develop local food distribution” (Berg, 2014, p. 796). By their very nature, food policy councils recognize that a food system is affected by a complex web made up of many individual issues, actions, and actors (Hamilton, 2002). Therefore, one of the greatest tasks of a food policy council is to find and fill the gaps in local food system infrastructure, and often locating the capital sources needed to fund the necessary changes (Harvard Law School Food Law and Policy Clinic, 2012, p. 23).

Food policy councils may be officially sanctioned at a city, county, or even statewide level, or they may exist as independent advocacy efforts within a community (Mukherji and Morales, 2010). The outcome of a food policy council may be a food charter that declares the region’s food system goals (Salkin, 2011). These recommendations can lead to an array of initiatives, from farmland preservation to institutional purchasing programs (Berg, 2014). A growing body of literature supports taking this more proactive approach to formulating food policy rather than simply reacting to individual food system issues as they arise (Hodgson et al., 2011; Hamilton, 2002). For example, in its 2007 “Policy Guide on Community and Regional Food Planning,” the American Planning Association adopted a policy of supporting the

“development of and participation in state food policy councils that provide a comprehensive and systematic focus on statewide food issues and needed actions” (APA, 2007, p. 19).

Hamilton (2002) offers several advantages food policy councils have over traditional government work groups. They often include “a broader array of interests and voices” than might otherwise be brought into the conversation, who are likely to ask a broader range of questions and voluntarily examine issues that are often overlooked (p. 443). Perhaps most importantly, food policy councils can use a more “comprehensive food systems approach to analyzing issues, which recognizes the inter-relation between different parts of the food system and the need for coordination and integration of actions if policy goals are to be achieved” (p. 444).

C. The Rise of Urban Agriculture in Postindustrial Cities

An extensive body of academic literature has examined urban agriculture’s potential to revitalize postindustrial American cities like Milwaukee. Often referred to as “Rustbelt cities,” metropolitan areas along the Great Lakes and elsewhere that formerly housed powerful manufacturing industries have experienced dramatic economic decline in recent decades. They have also been quick to seize upon urban agriculture as a potential source of economic, environmental, and cultural revitalization. Buffalo, Detroit, and Trenton and Newark are prime examples of postindustrial cities experiencing a growth in urban agriculture practice and research.

Buffalo, New York

Buffalo, New York, is a Rustbelt city at the forefront of food systems research. Formerly a prominent grain port and manufacturing hub, the city fell into economic depression as its Great Lakes location became less critical to the global grain trading business. Poverty, unemployment, food insecurity, and vacant land have become persistent problems in recent decades. However, with the city attempting an economic comeback with a sustainability focus, local food production has gained increasing focus.

Raja et al. (2014) have documented the progression of local food activism in Buffalo, which has gained considerable momentum. Led by a group of non-state actors concerned about their deteriorating neighborhood, urban gardening and food systems interest have blossomed. Following years of “incremental, persistent food system practice and advocacy,” the municipal government took notice and has incorporated local food system objectives in its policy and planning processes. The city even invited local food system activists to participate in updating the zoning code and comprehensive plan to better support local food production (Raja et al., 2014).

But beyond its inner city, Buffalo is exemplary for its food system focus not only on the inner city, but on the broader region. Under the HUD-funded initiative “One Region Forward,” the Buffalo-Niagara region commissioned a report on the two-county regional food system, encompassing the Buffalo metropolitan area (Raja et al., 2015). This report was recently completed and contains one of the most comprehensive regional food system analyses to date in the United States. Food production within the region played a central role in the report, concluding that Buffalo-Niagara is experiencing a

dwindling of agricultural land much like other metropolitan regions in the United States but that its potential to produce more food for human consumption is largely untapped.

Detroit, Michigan

Detroit, Michigan, is well known for its drastic economic decline and pervasive issue of vacant land. The more than 30,000 acres of vacant land in the city is such a concern that it is “overwhelming even to urban experts...and there is little to no market demand for new residential, commercial, or industrial developments” (Mogk et al., 2010, p. 1523) This once-thriving hotbed of the automobile industry declared bankruptcy in 2013 and has gained negative notoriety for its lack of social services and plummeting population. However, the remaining population of Detroit is not throwing up its hands; just the opposite, the urban agriculture scene is thriving. According to the Detroit Agriculture Network, there are now more than 900 urban gardens across the city (Mogk et al., 2010). Recognizing the multitude of benefits this rise in local food production provides the city, Detroit has entertained a wide range of proposals to promote urban agriculture. Many of these focus on creating new or improving existing land use tools like the comprehensive plan and zoning ordinances. As such, Detroit continues to receive much attention and scholarship for urban agriculture.

Trenton and Newark, New Jersey

Significant areas of Trenton and Newark, New Jersey, have been declared food deserts, or areas with “limited access to affordable and nutritious food, particularly ... composed of predominantly lower-income neighborhoods and communities” (Smith, 2012, p. 72). The situation had become so dire that in recent years, the state legislature

had attempted to address the problem in several ways, with varying success. At the same time, however, urban agriculture had begun to grow in a major way in each community as residents and activists sought their own solutions to the persistent food desert problem. Urban farms, community gardens, and various other agricultural businesses have flourished as a result of community activism. However, these endeavors were largely taking place under ambiguous zoning ordinances, which didn't clearly address the permitted or prohibited nature of agricultural activities. Smith (2012) identified several major zoning barriers that had not yet been addressed by the municipal governments, included zoning community gardens as a permitted use, permitting urban farms as a conditional use, and increasing the number and location of farmers' markets.

These three examples demonstrate the significant trend toward research in local food systems, and particularly food production, in economically depressed U.S. cities. What is lacking, however, is an examination of local food production in the regions surrounding these urban centers. As regionalism gains momentum in food systems research, it will become increasingly important to understand the status of local food systems in the major communities surrounding urban centers like Buffalo, Detroit, and Trenton and Newark. This thesis seeks to fill that knowledge gap by providing a series of case studies of four major cities surrounding Milwaukee.

D. The Growing Importance of the Region in Food Systems Research

In recent years, the region has received increasing attention as an important unit in planning and governance. This renewed interest in the region, called "new regionalism,"

stems from a basic recognition that “economic trends, social challenges, and environmental problems are not neatly contained by city jurisdictions and thus solutions must incorporate coalitions and constituencies from across the metropolitan landscape” (Pastor et al., 2009, p. 269). But while regionalism has come in and out of vogue in the past, proponents of new regionalism have argued that it is the potentially increased economic competitiveness of regions (as opposed to economic efficiency) as well as the acknowledgement that significant income inequality derives from regions, that drives the current wave of new regionalism (Pastor et al., 2009). These are called economic and equity arguments for the importance of the region.

The regionalism trend is already well recognized and funded in the housing, transportation, and employment sectors. In 2010 the United States Department of Housing and Urban Development established the Sustainable Communities Regional Planning Grant Program, which awards competitive multi-million dollar grants to regions promoting “metropolitan and multijurisdictional” solutions to “economic and job development, housing, regional transportation, equity and fair housing” (U.S. Dept. of Housing and Urban Development, 2012, p. 9). These grants have impacted regional planning for housing, transportation, and employment in many regions. For instance, the Denver metropolitan region received \$4.5 million for affordable housing development in relation to the regional expansion of Denver’s rail transportation system (Denver Regional Council of Governments, 2012). These examples demonstrate how sectors other than food systems are promoting planning and cooperation at the regional level. This concept logically extends to regional food systems.

Increasing attention to regional food systems

As food systems research began to blossom, many scholars narrowly focused on local food systems as the solution to problems of the current industrial food system (Born and Purcell, 2006). However, Born and Purcell argue that the assumption that local is somehow inherently better is a trap, one that is “misguided and poses significant intellectual and political dangers to food systems research” (2006, p. 195). Drawing on research showing that localized food systems can just as easily lead to environmental degradation and social inequality, they conclude that no single scale can always be associated with a particular set of outcomes because scale is socially constructed (Born and Purcell, 2006). Under this analysis, the regional scale would be no more inherently beneficial to food systems research as the local scale; all would depend on context.

Salkin and Lavine (2011) argue that the relevant scale at which to address food policy is at the “regional foodshed” level (p. 600). They describe a regional foodshed as “a geographic area in reasonably close proximity to where an urban community receives agricultural commodities” (p. 600). While an interconnected set of federal, state, and local laws and policies affect a regional foodshed, Salkin and Lavine argue that progressive regional food system policy “is likely to start with state and local governments, which can take proactive measures to strengthen their regional foodsheds through a variety of land use planning and regulatory actions” (p. 601).

Similarly, Kneafsey (2010) argues that the regionalization of food systems should be subject to the same scrutiny scholars have leveled at the localization of food systems. First, Kneafsey points out, the concept of a “region” is not consistent across literature; some scholars invoke the word to refer to one metropolitan area while others have

extended it to a single state or even a grouping of states or small countries. Such variation, she argues, should cause readers to immediately question whether a scholar's proposed "region" is the desirable scale for a food system. In addition, different regions are set in highly variable geographic contexts and, as such, the concepts of environmental sustainability and resilience can have very different meanings depending on each.

Kneafsey therefore concludes that putting forth the idea that the region is the "one size fits all" solution to food system scale is misguided (2010).

It is clear, then, that food systems literature is continually searching for the appropriate scale for food systems, and the regional scale is increasingly placed in the limelight. While the definition of a region continues to change and evolve, regional food systems have taken their place as an important player in the food systems conversation.

Inherent challenges of regional food system policy

Developing a regional food policy is an inherently difficult task because regions are not traditionally recognized governance units. An area considered a regional food system is likely to transcend the boundaries of multiple jurisdictions, whether municipal, county, or state. The development and success of regional food system policy, then, depends largely on voluntary intergovernmental coordination. In addition, Salkin and Lavine (2011) argue that land use planning, which is key to food policy, is particularly fraught with tensions between regional and local control. Neighboring jurisdictions often lack uniformity in their respective zoning codes and regulations, which may have to do with competing interests (e.g. each seeking to attract economic development) or fundamentally different planning goals and pressures. (Salkin and Lavine, 2011). These

factors frequently arise in the literature debating the potential of actually implementing regional food system planning and policy.

III. METHODOLOGY

As discussed above, research and analysis of local food production and/or urban agriculture in Rustbelt cities has been well documented in recent years. Simultaneously, academics and community activities alike have begun to note the growing importance of the region in food systems research. This near-saturation of research in urban core neighborhoods coupled with the increasing interest in regions has revealed a dearth of literature on other local food systems within the region but beyond the urban core. This research seeks to fill that gap with four qualitative case studies of local food systems in the broader Milwaukee metropolitan region, providing a baseline picture of how these communities are engaging in local food production.

Case studies were compiled with a combination of document review and interviews. The author conducted an initial review of all local laws, regulations, and policies available online for each city. Then, interviews were conducted to fill in the gaps of knowledge, particularly because the availability of online information and documentation varied widely from city to city. The interviews also rounded out each case study by providing personal and/or institutional perspectives and experiences to supplement official documents.

In conducting both the document review and interviews, the author based her series of inquiries on the land use and zoning sections of several community food assessments or local food policy audits. These tools are an increasingly common way for municipalities to “explore the different facets of local food systems in a comprehensive, systematic way” in order to better plan for the food system overall (Hamilton et al., 2012, p. 56). The assessments generally include questions spanning the many sectors of a food

system, from production to processing, aggregation, distribution, and consumption. Zoning and land use laws, regulations, and policies for food production are a critical component of these assessments:

“In addition to federal and state laws and policies, local regulations play a major role in determining where food is grown, sold, and consumed. The web of formal and informal policies affecting these issues can be difficult to uncover and examine. This is the point where urban planning techniques can provide significant benefits to communities carrying out food system assessments. Through a planning lens, a food system assessment highlights the effects of the built environment, as well as the policies that create this environment” (O’Brien and Cobb, 2012, p. 180).

The Food Policy Audit tool (FPA) developed at the University of Virginia served as the specific template for this research. In its entirety, the FPA is a series of 113 yes-or-no questions on the existence of food-based law and policy relating to public health, economic development, environmental impacts, social equity, and land conservation (O’Brien and Cobb, 2012).

The FPA was applied in the five-county region of Charlottesville, Virginia, in 2009 (O’Brien and Cobb), and later in Franklin County,³ Ohio, at the request of the Franklin County Food Policy Council (Marquis, 2012). More recently, the FPA has been performed in the City of Milwaukee by the Center for Resilient Cities (CRC). While CRC has not yet published the results of the Milwaukee audit, CRC Executive Director

³ Franklin County includes the metropolitan region of the City of Columbus.

Marcia Caton-Campbell found the FPA to be such a useful tool to assess local food systems that she co-taught a seminar class at the University of Wisconsin-Madison on the topic.⁴

Prior to conducting the interviews, the author completed training in human subjects research and obtained approval of the study from the University of Wisconsin-Madison Education and Social/Behavioral Sciences Institutional Review Board (IRB) (“Education and Social/Behavioral Science IRB,” Appendix C). The standard protocol, used to inquire about setting up interviews, and the written informed consent forms were also approved by the IRB at that time.

The author initially approached relevant individuals and organizations by email to explore the potential of setting up an interview appointment (“Interview Protocol,” Appendix E). Those interested either responded directly or passed the inquiry along to a more relevant individual. When the appropriate person was identified, the author requested he or she sign a consent form prior to the interview; if the interview was by phone, the consent form was conveyed by email and if the interview was in-person, it was obtained in-person (“Informed Consent Form,” Appendix D).

The original FPA created in Virginia consisted of 113 questions. Of these, 43 questions related to land use and zoning. The author reviewed those questions to select the 30 that specifically pertained to food production. The final audit conducted on Waukesha, West Bend, Mequon and Racine consisted of those 30 questions, which fell into four categories: (1) sustainable agriculture and environmental impacts, (2) urban agriculture, (3) home gardening, and (4) traditional agriculture and rural land use (See

⁴ The author took part in this seminar class, where she researched the city and county of Waukesha. That work provided the foundation for this research.

“Tables of Results,” Appendix A). These questions covered land use and zoning laws and policies that affect:

- compost (an important food production input);
- rainwater harvesting systems (another important input);
- food production on public property, including city parks, schoolyards, and vacant lots;
- food production within conservation or community land trusts and affordable housing developments;
- food production at private residences;
- funding streams to promote local food production; and
- agricultural land preservation.

Two additional sources were formative in the process of developing this research methodology. First, the thesis research of Nina Mikherji (2009) and Matthew Covert (2012) served as exemplary parallels. Each utilized this format of document review and interviews with city and non-profit staffers. Second, the 2012 Milwaukee Urban Agriculture Code Audit, funded by the United States Environmental Protection Agency Region 5 Environmental Justice Showcase Pilot Project, also informed this research (U.S. EPA, 2012). That study audited the building and zoning codes of the City of Milwaukee specifically for urban agriculture laws and regulations, concluding with the city’s strengths, weaknesses, and opportunities for improvement. This research seeks to do the same for Waukesha, West Bend, Mequon, and Racine.

Selection of Cities

Four cities were chosen for this study by their proximity to the City of Milwaukee. Because the focus of this research was to concentrate on urban food production within the Milwaukee region but outside the City of Milwaukee itself, the author chose to study one city in each of the four counties neighboring Milwaukee County: Waukesha County, Washington County, Ozaukee County, and Racine County (i.e. Milwaukee's "peri-urban fringe"). Studying cities rather than other municipality types was chosen because of their higher likelihood to have encountered or engaged in urban food production issues. To be clear, however, the cities were chosen for their general prominence in the Milwaukee region and not because they were known for having a thriving local food production scene.

Among the four counties, each included one major city whose population vastly outnumbered the population of any other city in the county (Waukesha, West Bend, Mequon, and Racine, respectively). Each of these cities also constituted the densest population per square mile, with the exception of Mequon.⁵ The end result was four case studies of Milwaukee's dominant peri-urban, regionally significant municipalities.

Waukesha is a city of 70,718 people located 17 miles directly west of Milwaukee (U.S. Census, 2010). Founded in 1846, Waukesha was a farming and manufacturing hub and even a resort destination through the end of the 19th century, gaining nationwide acclaim for its natural springs. Reflecting its rural character, Waukesha County was known as "Cow County U.S.A." in the WWI era due to the claim that there were more

⁵ Despite its relatively low density, Mequon was retained to represent Ozaukee County because its sheer population so vastly outnumbered that of any other municipality in the county.

cows than people (University of Wisconsin Digital Collections, 2011). Today, the City of Waukesha is the most densely populated city in the county, with 3,072 people per square mile. Its largest industries include insurance agencies and brokerages and various types of manufacturing (Wisconsin Department of Workforce Development, 2014).

West Bend is a city of 31,078 people located 31 miles northwest of Milwaukee (U.S. Census, 2010). West Bend boasts a population density of 2,165 people per square mile. Its largest employers include various types of healthcare, some manufacturing, and residential leasing (WDWD, 2014).

Mequon is a city of 23,132 people located 13 miles north of Milwaukee along Lake Michigan (U.S. Census, 2011). It remains at a relatively low population density, with just 500 people per square mile. It is also a relatively wealthy suburb of Milwaukee, with a median annual income of \$107,432 (U.S. Census, 2010). Mequon boasts “majestic lakeshore bluffs, stately homes, lush farmland and expansive open space,” with a “rural heritage...preserved by high development standards and low-density zoning regulations” (City of Mequon, 2015). Its largest employers include Concordia University, Rockwell Automation, Inc., and Columbia St. Mary’s hospital (Pawasarat, 2015).

Racine is a city of 78,860 people located directly south of Milwaukee. It is populated at a density of 5,074 people per square mile. Its largest industries include manufacturing; packaging and labeling services; industrial supplies distribution; and home furnishings, among others (WDWD, 2014).

	Waukesha	West Bend	Racine	Mequon
Population	70,718	31,078	78,860	23,132
Pop. density (per sq. mi)	3,072	2,165	5.074	500
Median household income	\$ 57,802	\$ 54,977	\$ 38,072	\$ 107,432
Poverty rate (%)	11.7	9.9	22.9	3.4
Racial composition (%)	Caucasian: 88.1 African American: 2.3 Latino/Hispanic: 12.1	Caucasian: 94.8 African American: 1.0 Latino/Hispanic: 3.9	Caucasian: 61.8 African American: 22.6 Latino/Hispanic: 20.7	Caucasian: 92.0 African American: 2.8 Latino/Hispanic: 2.0

Source: U.S. Census Bureau (2010)

Document Review

Documents reviewed included zoning codes, comprehensive plans, official city websites and websites of relevant non-profit organizations, and policy documents.

Selection of Interviewees

Two to four interviews were conducted for each city. City staff interviewees were selected by title, targeting city planning and community development officials with a natural knowledge of local land use and zoning law and policy. Non-profit organization interviewees were included to balance the governmental perspective and to provide perspective of the on-the-ground realities precipitated by municipal laws, policies, or the lack thereof. Good candidates for these interviews were identified by word-of-mouth recommendation, simple internet searching, or the author's prior knowledge of Milwaukee region food advocates.

Interview Structure

Interviews were conducted over the phone or at on-site locations outside Milwaukee in April, May, and June of 2015. The interviews were semi-structured, loosely following a set of pre-determined questions while also allowing the conversation to include new relevant subject matter as it arose. This interview style was appropriate in encouraging interviewees to share their specific experiences and perspectives. Each interview was approximately one hour in length. This duration allowed the interview to encompass the pre-prepared questions as well as allowing time for discussion of other unanticipated information. A list of interview questions utilized in addition to the Food Policy Audit is included at Appendix F.

IV. RESULTS

A. Racine Case Study

Interviews conducted for Racine included: Jeff Vitton, City of Racine Community Development Program Specialist; Jill Johanneck, City of Racine Associate Planner; Chris Flynn, founder of the Racine Urban Garden Network and owner of local business D.P. Wigley; and Sasha Broadstone, Sustainable Food System Coordinator / AmeriCorps VISTA. These interviews balanced the city government perspective with that of the local urban agriculture practitioners and activists.

The City of Racine has a robust urban agriculture and community gardening scene. The City has been receptive and supportive of the needs of this local community. An initial review of the Racine Municipal Code (RMC) revealed a variety of ordinances demonstrating this, including ordinances and permitting processes allowing backyard chickens, beekeeping, community gardens, hoophouses, and on-site sales of produce from community gardens. The express inclusion of these ordinances in municipal law, rather than case-by-case allowances or the city “turning a blind eye,” were not typical of the other cities included in this study. The RMC, which the city is currently endeavoring to update even more (Johanneck and Vitton, 2015), is by far the most progressive included in this research.

Community gardens are a conditional use allowed in all residential, business and industrial districts (see, for example, RMC § 114-274(a)(15)). A community garden is defined as “a plot of land for producing fruits, vegetables or flowers, not including on-site sales and not including on-site distribution” (RMC § 114-1(b)). There are at least ten

community gardens situated around Racine, with the first dating back to 2009. Because they are a conditional use, each community garden must obtain a conditional use permit and pay a \$695 fee. To date, the city has approved every community garden permit application that has come before it (Johanneck and Vitton, 2015). The permit requires, among other things, notification of surrounding property owners, regular maintenance and storage of garden materials, trash removal on a daily basis, supervision of minors on the premises, and identification of water sources and compost sites. Two community gardens are located on city-owned land; all others are located on private property, mostly that of churches (Broadstone, 2015). Gardens on city-owned lots receive a five-year lease for \$50, which may be terminated with notice. Broadstone states that there is actually little incentive to put community gardens on city-owned land because of the insecure land tenure. While no community garden lease has suffered termination to date, the city has in fact indicated its view of community gardens as temporary, interim uses:

“Specifically what will happen though is that we’ll get funds for a demolition, tear down an abandoned blighted property in the neighborhood and RUGN [the Racine Urban Garden Network] will move in as temporary use as a community garden while we get additional funds to build new homes on those lots. So it’s a great interim use to benefit the neighborhood turning an eyesore into multiple opportunities to improve, and then in the future new single-family homes being built on formerly blighted property. It’s a win-win situation for us to have an interim user because that reduces our property maintenance costs as well” (Johanneck and Vitton, 2015, p. 3).

In addition, community gardens must pay for their metered water usage where connected to the city water supply (Broadstone, 2015). This is in contrast to community gardens on private property in Racine, which usually connect to water through a generous neighbor without charge (Broadstone, 2015).

As of June 2014, community gardeners are allowed to sell unprocessed produce from city-owned vacant land (Spoto, 2014). The ordinance, proposed by City Alderman Krystyna Sarrazin and passed by the Common Council, allows vendors to sell “unprocessed, unfrozen, whole, raw fruits and vegetables that have not been combined with other ingredients” for a nominal fee of \$10.00 per year (RMC §§ 22-1261 and 1262). To date, however the City has received just one inquiry regarding the ordinance and has issued no permits actually utilizing it (Johanneck and Vitton, 2015).

Another recent victory for urban agriculture activists in Racine has been a backyard chicken ordinance allowing the raising of up to four chickens for personal consumption. The stated purpose of the ordinance is to

“Provide standards for the keeping of domesticated chickens on a non-commercial basis in zoned residential areas in the City of Racine. The keeping of chickens in the city supports a local, sustainable food system by providing an affordable, nutritious source of protein through fresh eggs. The keeping of chickens also provides quality, nitrogen-rich fertilizer; chemical-free pest control; weed control; and animal companionship” (RMC, § 10-6(a)).

The ordinance is limited to single-family, owner-occupied residences, who must pay \$50 per year for a permit and may not engage in sale of the eggs (Spoto, 2015).

Compost of food waste is largely an area of silence in the RMC. The city regularly accepts yard waste from residents, which the Public Works Department converts to wood chips and mulch and distributes for free to Racine residents (Johanneck and Vitton, 2015). While the community garden conditional use permit process requires gardeners to identify the location of compost piles at garden sites, it does not explicitly restrict food waste. It is unclear whether gardeners do contribute food waste from home to these piles, but the community gardens do not actively encourage it (Broadstone, 2015).

The city mayor and common council are generally receptive of the urban agriculture community's efforts and ideas:

“...We do have a mayor who's very supportive of these efforts and is pretty vocal about that...always looking for creative ways to incorporate that into our city development and then provide healthy alternatives for our citizens” (Johanneck and Vitton, 2015).

Indeed, the Racine Urban Garden Network (discussed below) received \$10,000 toward start-up costs from city funds. Similarly, two other agricultural projects received city approval in recent years. First, a local entrepreneur proposed converting an old industrial building into an aquaculture operation. The city was very involved in the process of planning and permitting the aquaculture operation, which it eventually approved. However, the entrepreneur was not able to successfully complete the project and it eventually failed. A year-round indoor farmers' market was also proposed and approved by the city several years ago. It would have housed 36 vendors and family event space along one of Racine's main re-development corridors. The idea, though, “didn't really

take off’ due to complications with the business plan, and it too was ultimately abandoned (Johanneck and Vitton, 2015). While the city’s approval of these and other projects indicate its enthusiasm for urban agriculture projects, the lack of continued monetary support coupled with the high cost of conditional use permits for community gardens raises the question of just how far it will really go.

Racine Urban Garden Network

The primary player in urban agriculture in Racine is the Racine Urban Garden Network (RUGN). With a goal to “continuously provide people in Racine with the necessary education and tools to grow their own healthy food,” RUGN has established and currently manages twelve community gardens throughout the city (RUGN website, 2015). RUGN utilizes a volunteer-run model, with each garden managed by an individual volunteer. A panel of ten board members governs the organization (Flynn, 2015). For the last three years, three separate AmeriCorps VISTA volunteers have consecutively served the organization on a full-time basis. This arrangement has helped springboard RUGN to a new level of organization and leadership (Broadstone, 2015).

RUGN was founded by a group of concerned community members in 2009, led by current board member and local business owner Chris Flynn⁶. At that time, Flynn and a fellow resident, Sarah Wright, were motivated to start the organization by the lack of access to healthy foods in downtown Racine.

“...[I]t’s kind of a food desert [in] downtown Racine. We don’t have a lot of access to grocery stores and... there’s a lot of unemployment here and health

⁶ Flynn also owns and operates D.P. Wigley, a garden supply store in downtown Racine.

issues... [W]e had gone to see Will Allen at Growing Power and we just got to talking about what we could do here. And we decided to... get a meeting of people who were interested in these issues” (Flynn, 2015, p. 8).

Over 100 community members attended that initial meeting, resulting in RUGN. The next year, RUGN’s first community garden, the Marquette Garden, was born. It initially hosted just 25 gardeners; today, over 100 garden in its plots (RUGN website, 2015).

When asked if Will Allen and Growing Power were influential in the formation of RUGN, Flynn stated “he was like a star—the north star” (Flynn, 2015, p. 14).

RUGN applied for a Community Block Development Grant from the city three years ago. “At first they turned me down, and then I got up and I blubbered and they felt sorry for me so they gave me ten thousand dollars, which was awesome” (Flynn, 2015, p. 12). That initial \$10,000 provided much-needed support to the growing organization. In addition, RUGN regularly applies for small grants and receives support from area businesses like the Johnson Company and organizations like the Potpourri Garden Club. Still, Broadstone worries that the organization has nearly outgrown its capacity as a volunteer-run group with consistent and reliable funding. She is concerned that the already-stretched organization hasn’t been able to devote enough time and energy to fundraising, an even greater concern as the three-year funded AmeriCorps VISTA position ends permanently in August 2015. For example,

“we have one fundraiser a year pretty much that we use to get improvements to our gardens like signs. We did it to get signs this year, if you can believe it. Some of our gardens are five years old and still don’t have signs with the name of the garden” (Broadstone, 2015, p. 19).

RUGN hopes to hire a part-time (15-20 hours per week) staff person for the duration of the growing season following the conclusion of the AmeriCorps VISTA program.

Where RUGN has stepped in to establish community gardens, distressed neighborhoods have improved. This opinion is held by both the city and RUGN itself. For instance, the original Marquette neighborhood “used to have not the best reputation,” but now “people come to town and they want to see the Marquette Garden” (Flynn, 2015, p. 11). RUGN, in fact, actively seeks out opportunities to establish gardens in troubled neighborhoods. Flynn predicts one of its most recent efforts in a troubled neighborhood, the Jacato Community Garden, will be “slower to change, but it will” (Flynn, 2015, p. 11). That statement accurately reflected the relentlessly optimistic nature of RUGN’s founder throughout her interview. One fact demonstrating RUGN’s community-building approach is its emphasis on neighbors helping neighbors. On its plot sign-up form, potential gardeners can check a box stating either “I may need the help of a more experienced gardener” or “I am an experienced gardener and will help others if necessary” (RUGN website, 2015). RUGN tries to match the inexperienced with the experienced. That organizational mindset fosters relationships between gardeners, encouraging first-time gardeners or physically disabled gardeners to join the community. (RUGN also offers raised bed options and wheelchair access for those in need.) Volunteers, like the Master Gardeners, often offer educational classes and garden tours to further enhance the learning atmosphere.

A few words from Flynn summarize why she feels RUGN has had such success in fostering a new atmosphere of community gardening in Racine:

“I just feel strongly that it’s really good for us to relearn a respect for one of our most vital resources – food – by being directly involved in its creation. I think it will cause us to be healthier physically, mentally, and socially. In “modern” countries anyway, we have become disconnected from our creativity and direct relationships with the products we need and use every day. I think we have begun to yearn for what we lost with mechanization and modernization – progress, we have called it. So people are playing board games again, singing together, sewing, knitting, gardening, cooking, etc. It’s good for our souls to use our creative juices and to get reacquainted with each other, sharing friendship, knowledge, and skills” (Flynn, June 17, 2015).

Other Relevant Projects in Racine

RUGN is not a solitary actor in Racine’s urban agriculture and local foods scene. In fact, the Sustainable Edible Economic Development, Inc. organization (SEED) played a supportive role in RUGN’s establishment. Founded by community member Robert Beezat, SEED has five goals:

“(1) Partner with existing farmers to build local markets for their existing crops while encouraging them to expand into local niche products, (2) Establish distribution strategies to get the product from farmer to consumer, (3) Determine products with a potential local market niche, (4) Find and grow new farmers, [and] (5) Identify parcels of land that are available and viable” (RKCAA website, 2015).

SEED currently shares RUGN's AmeriCorps VISTA volunteer. Some of its work includes providing scholarships to students interested in horticulture and urban agriculture classes at Gateway, the local community college (Broadstone, 2015). SEED's most recent accomplishment has been to establish the Southeast Wisconsin Sustainable Food Fund. This fund provides loans for local, healthy, and sustainable food businesses from an investment pool co-managed by the Wisconsin Women's Business Initiative Corporation (SEED website, 2015). Beezat described the impetus behind the fund:

“Many people expressed interest in being able to invest their money locally in businesses that can add jobs to our economy while supporting the growth of a sustainable food ecosystem in this region. After talking to individuals from a variety of sectors and organizations, we determined that there is a gap in funding between traditional banks and many small businesses. The Wisconsin Women's Business Initiative Corporation (WWBIC) is an existing organization set up to help fill that funding gap and support small businesses. They have the organizational capacity to support increased lending if we can provide them with additional funds to lend, and are willing to increase lending to businesses focused on sustainable food” (Beezat, 2015).

The Racine Kenosha Community Action Agency, in turn, is an umbrella organization that fosters community initiatives throughout the region. They played a guiding role in SEED's and, in turn, RUGN's formation.

RUGN and SEED lastly share their AmeriCorps VISTA volunteer with the Homeless Assistance Leadership Organization, which hosts a hoophouse program that

trains homeless individuals to grow herbs and vegetables to sell at the local farmers' market. It is just one of several of HALO's "social enterprises [to generate] income for the shelter that isn't grant or donation motivated" (Broadstone, 2015, p. 5).

A highly anticipated upcoming addition to Racine's local food and agriculture scene is the planned Wild Root Co-op, a cooperative grocery store set to open its doors in Racine in the fall of 2016. Similar to the origin story of RUGN, Wild Root was born from the collective concerns of a small group of committed citizens. It has been in the process of organizing itself and recruiting membership since 2009. The current goals of Wild Root are:

"Providing as much local and fresh food as possible at a full service grocery store open to the public, promoting a more sustainable community where our resources are not depleted, polluted or destroyed, keeping money in the local economy by supporting local farming and other locally produced goods and services, offering good jobs with honest wages for local residents, [and] growing a large community of member-owners who, in turn, invest their money in a growing economy" (Wild Root Market website, 2015).

The city government itself is especially encouraging the project, anticipating that it may help Wild Root Market with funding down the road:

"That's something we're very, very excited about and definitely want to support in any means that we can. For instance, they might be an eligible use for CBDG funds and it's something we would encourage them to

pursue. So, we're very receptive in encouraging and wanting to be a partner in these community efforts" (Johanneck and Vitton, 2015, p. 14). With just over half its goal membership of 1,500 already obtained, Wild Root Market hopes to begin construction of its cooperative store in the spring of 2016.

Conclusion

Overall, there is a clear concentration of activity on local agriculture, local food, and community gardening in Racine. The most prominent of these many projects—RUGN, SEED, and Wild Root Market—share a common story of growing from a small group of concerned Racine residents who envisioned a change in their community and were able to access guidance and resources to pursue it. In turn, the City of Racine is vocally supportive of the projects and, at least in the case of RUGN and potentially Wild Root Market, willing to use city funding to kick-start them. However, in the case of RUGN, the concern of long-term funding is ever-present and may present challenges to the organization's growth and stability. Therefore, the sustainability of the city's local agriculture, food, and community gardening trend may depend on the dedication of the committed citizens who started it.

B. Waukesha Case Study

Interviews for Waukesha were: Jeff Fortin, Community Development Specialist for the City of Waukesha, and Ann Wied, Consumer Horticulture Educator and Community Development Educator for Waukesha County.

The City of Waukesha hosts a small but budding local agriculture scene that appears to be quite in its infancy and driven largely by the interest of city staff itself rather than Waukesha resident interest. Not surprisingly, the Waukesha Municipal Code (WMC) is decidedly silent on agriculture and agricultural-related activities within the city limits. There are no pre-existing agricultural zones within the city. Any actively farmed agricultural land currently within the city limits is due to annexation, in which the land was annexed into the city as T-1, or temporarily zoned property. In essence, Fortin stated that this land is waiting for development and agriculture is allowed to continue until the time of rezoning for development.

In assessing resident interest in local food, agriculture or community gardening, the City of Waukesha has not seen a large contingency of citizens pushing for changes. “It’s not like Milwaukee where [you] have a lot of citizens who are jumping to do it” (Fortin, 2015, p. 1). Instead, city staffers have attempted to push ideas into the public sphere with limited success. For instance, several years ago the Community Development staffers approached the city’s parks department about installing community gardens on public parkland as a way of instituting community-building in neighborhoods while reducing maintenance costs of the parks. While the Parks Department wasn’t initially receptive to the idea, “they’re just kind of coming around to it” two years later (Fortin, 2015, p. 14). They are now interested in pursuing the idea, and even posed a new plan for

city hall planters near the municipal building where city staff may begin to grow and maintain small vegetable gardens and donate the produce to the local food pantry. The city is also aware that local residents do engage in urban foraging on city-owned property, particularly parkland. Though the city doesn't have a policy to actively encourage foraging, "we wouldn't have a problem if somebody was" (Fortin, 2015, p. 10).

Home gardeners face little restriction on their activities. The city WMC is silent on home gardens and the city itself essentially maintains a "hands off" attitude toward what residents do in their own yards: "They can basically do whatever they want" (Fortin, 2015, p. 5). That approach is both an asset and a limitation to city residents wishing to engage in agricultural-related activities because, while they aren't explicitly prohibited, they aren't explicitly permitted either. For example, the WMC does not mention the keeping of chickens within city limits although the practice does exist.

"Our code doesn't speak to the chickens. I know people have talked about codifying it so we can have it but there isn't anything now and I know some people do have chickens now because I know the people who have them. Since we haven't gotten any complaints, the staff is more taking the attitude that without complaints, let's not bring it up now. You never know if the aldermen will be supportive or not... But we haven't had any complaints about them, so we're letting it slide."

Under this approach, a citizen who currently keeps chickens in Waukesha faces no restrictions or permit costs in order to do so. However, should a neighbor complain, that

same citizen would have little recourse to keep her chickens unless she was able to persuade the city council to adopt a permitting ordinance.

Compost bins and rainwater harvesting systems are both allowed within the city. Fortin stated that, while there aren't many relevant regulations on compost bins, they are a source of complaint somewhat frequently. At times, the city responds to complaints about compost bins that attract vermin or emit excessive smell; in those cases, Fortin said, it is usually a resident labeling a waste pile "compost" when it is really not maintained as one. The city has issued warnings and citations in these instances.

Another somewhat ambiguous area of the WMC relates to points-of-sale for small agricultural businesses, particularly food processing or produce sale. Commercial operations are prohibited in residential zones. However, the code does allow home industries as conditional uses in these zones. A home industry is defined as

"a home occupation that is carried out in a structure separate from the principal structure, or any occupation for gain or support conducted entirely within buildings by resident occupants which is incidental to the principal use of the premises, and which may have a detrimental effect on the surrounding neighborhood" (WMC § 22.05(106)).

The city is decidedly lax about enforcing home industry permitting, and one recent incident did arise to test the ordinance where a resident complained about her neighbor's apparent cut flower business in a residential area. The city investigated, mainly considering whether the use was attracting additional traffic and disturbance to the neighborhood, and concluded that the woman's small business did not exceed the home

industry use. However, the criteria for evaluating the potential home industry appeared foggy at best. This, again, is an example of where the city's relaxed attitude can serve residents but also potentially hurt them by not clearly defining the permissible parameters.

The city has noticed a revival of interest in living and working in downtown Waukesha, the densest area of the city. It credits much of this to recent Carroll University graduates who choose to remain in Waukesha and to urbanites moving out of the City of Milwaukee but still interested in a somewhat urban setting. The city believes this, in turn, is driving some of the renewed interest in urban agriculture and community gardening:

“We think the downtown demographics are shifting to young urban professionals. People want to live near bars and restaurants, so we think that will probably eventually kind of force [urban agriculture]... People who live downtown are thinking, ‘I’d like to live downtown but I’d like to do some gardening’” (Fortin, 2015, p. 23).

Adding to the lack of availability of garden plots, downtown Waukesha recently lost its only grocery store. The city is working hard to recruit a grocery store to remedy that loss, which has effectively created a food desert in the downtown area. “We’ve talked to some people about grants and stuff to address it. We would like to maybe try to get someone to do some sort of place where...farmers’ market people can bring their stuff there and have it for sale during the week” (Fortin, 2015, p. 7). That idea is in its very early stages.

The weekly Waukesha Farmers’ Market is a major event in the city. In operation for 16 years, the market is run by the Waukesha Downtown Business Association and boasts almost 100 vendors. The city issues a seasonal permit to close down several

downtown streets each Saturday morning, May through October. There exists somewhat of a question whether the Waukesha Downtown Business Association, a private organization with a tenuous relationship with the city, should remain in management of the market. “They’re making a lot of money off this but not sinking it back into downtown. We’d rather see that money go back into downtown” (Fortin, 2015, p. 8). For now, the market remains one of the most attractive and growing elements of local food and agriculture in Waukesha.

The city estimates it has two to three acres of vacant land around the city that it would be interested in having utilized for neighborhood gardens or urban farms. One new restaurant owner, Chef Tom White, Jr., has initiated discussions with the city about using a vacant lot next to his new downtown restaurant as a garden site to supply produce to the restaurant. White is moving his business to Waukesha after closing a similar restaurant in Hales Corners, where he actively gardened for the restaurant (Deptolla, 2015). He also hopes to eventually use the rooftop for his beehives and a small-scale garden. According to Fortin, the city is very receptive to White’s ideas and looking forward to working with him to establish the best approach to help the restaurant thrive. The restaurant is not slated to open until later this year, and for now White has decided to first focus on opening it before shifting focus to supplying his own ingredients (Fortin, June 15, 2015).

Overall, the City of Waukesha is interested in promoting local agriculture and plans to continue pursuing its piecemeal approach to fostering new ideas. It isn’t without its challenges, though:

“It would be nice if our neighborhood groups were more involved. We have some that are sort of involved, but really getting people to do things

is a little of challenging sometimes...[W]e're always kind of behind Milwaukee on stuff like this" (Fortin, 2015, p. 7, 23).

Community Gardening in Waukesha

The City of Waukesha boasts two active community gardens, both of which are run not by the city but by the Waukesha County Master Gardener program (Wied, 2015). The first, called the Tower Hill Community Garden, is a smaller community garden space consisting of ten raised beds on land owned by Waukesha Memorial Hospital. Several years ago, the hospital approached the Master Gardeners requesting ideas for how they could use their excess unused land. The Master Gardeners, who already maintained small planter boxes in the hospital courtyard, proposed a community garden site to also serve as an educational garden. The finished product now includes approximately 20 community gardeners and a rain garden demonstration area. The Master Gardeners put on a weekly program to foster a sense of community and education:

“[E]very week we meet at the gardens and we work in the garden, we plant, we maintain it, we harvest it, and I team up with a nutrition educator from my office. She does a little nutrition lesson for the kids who are there. It could be a story, could be a game. Anyone who comes that day, we share the produce with, so the garden's a nice way for people to garden who don't have a garden in their yard. It might be a great way for people to learn about gardening who have never gardened before” (Wied, 2015, p. 2).

In addition, the Master Gardeners established a kitchen garden at the hospital, which also serves as a community education site for a once-monthly garden talk series. The Master

Gardeners have seen modest but encouraging response to the series from hospital staff, patients and patient families, and the community at large.

The second and much larger community garden in Waukesha is the Waukesha County Community Garden. This site hosts dozens of gardeners on county-owned land situated near the county jail. Gardeners can choose between 20' by 20' plots or 30' by 30' plots, and either permanent or seasonal plots. Permanent plots are not plowed by the county each year, and so gardeners are free to plant perennials and overwintered varieties (Wied, 2015).

One of the most interesting aspects of this community garden is a large plot maintained by inmates from the county jail. Each week, 15 participating inmates with no disciplinary issues are allowed unsupervised leave for several hours to join the Master Gardeners in maintaining this large jail garden plot. The Master Gardeners use the opportunity for education in gardening, nutrition, and financial management. The program, which the jail initially only hesitantly approved, has grown significantly from its modest beginnings and has earned the enthusiastic support of the jail staff.

“The jail facility liked the idea of offering an educational opportunity to the inmates as well as a service opportunity. And one of the supervisors at the Huber facility said that because it’s a privilege, they notice that they have less problems within in the jail with people because they knew they wanted to come out and participate. So that was an incentive to them to have less problems within the jail. So it has just really boomed and we don’t even have to promote it. People have already been talking about it for months in the jail. Word gets out, although the program, and you know

there might be someone who unfortunately has been there before or knows someone who's been there before and say, you've got to ask about the garden program" (Wied, 2015, p. 8).

In fact, Wied has seen such a positive impact on the inmates that some have even carried over their experience into post-jail life:

"One year it was so fun—out at the community gardens someone who had gardened came up to me and said, 'Hey, how you doing? Do you remember me?' And I said, 'Oh, did you garden in the community plots last year?' and he said, 'No, I was in the Huber facility program and it just made me want to garden this year. I've been out for three months and my girlfriend and I rented a plot'" (Wied, 2015, p. 9)

Wied is particularly proud of the fact that the Waukesha Community Garden is widely supported by the community and the local government. Each year, the Master Gardeners host a harvest breakfast at the community garden, which is a potluck –style gathering to celebrate the conclusion of the growing season.

"I've had a lot of support. Well, I've had a lot of elected officials come to my little garden breakfast. It's funny, they come year after year to support the Waukesha County Community Gardens. We've had the mayor of Waukesha come a number of times. We've had a couple supervisors visit us. It's nice to have them see something that's a county-wide project" (Wied, 2015, p. 9).

C. Mequon Case Study

The first page of the City of Mequon’s official website heralds its rural character and its embrace of agricultural as two of its touchstone characteristics.

“[T]he City of Mequon boasts majestic lakeshore bluffs, stately homes, lush farmland and expansive open space.... Mequon's rural heritage is preserved by high development standards and low-density zoning regulations. Fifty percent of the land within the City is undeveloped and still mostly farmed” (City of Mequon website, 2015).

Comprised of 47 square miles and just 499 people per square mile, Mequon is indeed the least dense and most affluent of the four cities included in this study. The city believes its rural charm is likely one of its most attractive features for drawing residents. “I think there are a lot of people here that would say that’s one of the top priorities or reasons why they live here and what they want to maintain” (Zader, 2015, p. 2). However, the author’s interview with the city’s Assistant Director of Community Development clearly revealed that the city government does not necessarily feel as defensive about agriculture and open space as Mequon residents do: “[T]hey use it as a way to be anti-development” (Zader, 2015, p. 2).

The City of Mequon has an agricultural overlay district that encompasses the area within the city limits where sewer does not extend. The purpose of this district is “to provide for, maintain, preserve, and enhance agricultural lands..., protect and encourage the continuation of existing farm operations, [and] minimize conflicts between farm and non-farm uses” (Mequon Municipal Code § 58-265(a)). The agricultural

overlay district lays over five-acre residential zoning. From the city's perspective, this agricultural overlay

“allows them to do farming but...just ends up being exclusionary zoning in a sense [that] you're mandating the five acre zoning. And so until... the economics work for the landowner, they'll maintain the farming on there until someone will come in and do a subdivision” (Zader, 2015, p. 2).

Essentially, the city's ordinances begrudgingly and temporarily operate to maintain the agricultural and rural character that its residences desire.

Additionally, the Mequon Municipal Code contains a transfer of development rights program “to promote citywide preservation of agriculture, rural open space and character, scenic vistas, natural features, and environmental resources for the benefit of Mequon residents” (§ 58-332(b)). However, the ordinance does not establish sending or receiving zones, opting instead to consider them on a case-by-case basis:

“We basically have an ordinance that requires our Open Space Preservation Commission to react and determine the sending and receiving sites and there are criteria that they need to follow. They didn't at the time want to designate sites because they felt that would kind of sway the market” (Zader, 2015, p. 3).

Since the ordinances' passage in 2000, just one TDR project as been completed.

Beyond the initial apparent lack of interest in agriculture on behalf of the city, the Mequon Municipal Code does contain significant ordinances that indicate a growing number of urban agriculture uses on individual properties. For instance, Mequon recently instituted a backyard chicken ordinance allowing up to four chickens and no roosters on

residential lots of at least one and one half acres (see, e.g., § 58-235(b)(2)). In addition, the 2035 Comprehensive Plan for the City of Mequon identifies niche agriculture and agriculture as “desired businesses” and "economic goals and objectives" (p 22) to be actively promoted (2009, p. 20-22).

Four years ago, the City of Mequon participated in Ozaukee County’s Land Evaluation and Site Assessment process, which identified and rated areas with preservation value for agriculture. While several areas ranked highly within the City of Mequon for prime agricultural preservation value, Zader stated “we haven’t really done anything to protect it or go out of our way other than basically not rezoning it into something more intense” (Zader, 2015, p. 5).

Despite the city’s somewhat lackadaisical approach to agriculture and farming, the City of Mequon actually contains a thriving local food and agriculture scene led by steadfast activists and practitioners.

Outpost Natural Foods

A new location of the Milwaukee-based grocery store cooperative Outpost Natural Foods is a recent addition to Mequon. Opened in 2014, Outpost chose Mequon as a prime location for a branch store largely because of Mequon’s high proportional share of Outpost’s 21,000 member-owners (Mittelstadt and Servi, 2015). It also had a number of existing growers and producers in Mequon, like Barthel Fruit Farm and Fondy Farm, with a history of supplying Outpost’s other stores and market café.

One of Outpost's main goals in Mequon is to expand upon its owner-member base to educate the community about local and sustainable agricultural principles. In its first year, Outpost has considered its accomplishments on par with what it had expected.

“We were really well received by the community. People were excited that we're there, but then there's a little bit of learning factor in what it means to be a co-op, which was a little different in that community than was in [Milwaukee]...” (Servi, 2015, p. 6).

“I mean even just the conversation around organic is new for a lot of folks. But then, to bring up the word local and then say, ‘oh, by the way, we're community owned,’ they're like ‘what are you all talking about?’” (Mittelstadt, 2015, p. 6).

To foster awareness of local and sustainable food and agriculture, Outpost frequently hosts workshops to teach community members about growing and preserving their own food and/or purchasing socially and environmentally responsible food. Outpost also employs a staff nutritionist who focuses on traditional and nontraditional methods of engaging the community, like nutritional education in halfway houses or cooking demonstrations at local sporting events.

Outpost also places a large emphasis on supporting community partners—other like-minded food and agricultural organizations—by directing funding and public attention to their causes. Through its Outpost Community Partners program, Outpost chooses a local partner organization each quarter to receive a \$3,000 grant, the opportunity to be highlighted in Outpost publicity, and the benefit of an additional

fundraiser hosted by the co-op. For instance, West Bend-based Wellspring Farm, Wisconsin's longest-running community-supported agriculture (CSA) farm and education center, is this quarter's partner organization. Outpost recently hosted a "brat and beer" fundraiser outside the Mequon location, for which Outpost donated all of the food and directed all the proceeds back to Wellspring Farm (Mittelstadt and Servi, 2015).

Outpost Natural Foods sees itself as a "connector" within the local and sustainable food and agriculture scene. It seeks out opportunities to not only provide food and education directly to the community and its member-owners, but to facilitate the growth of local and sustainable agriculture in Mequon and the greater Milwaukee metro area. For instance, Outpost is currently involved in a farmer cooperative project tentatively coined the "Milwaukee Farmers' Union." This group of mostly young and peri-urban farmers hopes to form a formal cooperative to service the Milwaukee region, and Outpost clearly sees its own role in helping to foster development of that cooperative model. Though the project is currently on hold for the growing season, Outpost expects to be a regular participant in the Union's developmental discussions next year.

Overall, Outpost Natural Foods seems to be a tremendous new asset to the Mequon area. With greater proximity to many farmers, producers, and co-op member-owners, Outpost is poised to have a significant impact on local and sustainable food and agriculture in and around Mequon.

D. West Bend Case Study

Interviews for West Bend included: T.J. Justice, City Administrator, City of West Bend; Vicky Hopp, President, Washington County Master Gardeners; and Kellie Boone, Event Planner, Downtown West Bend Association.

The City of West Bend is situated within a largely rural setting. It is surrounded by agricultural fields that at times patchwork into what appears to be within the city limits, but is usually either a surrounding township or a recently annexed property:

“[O]ur municipal code is silent on agriculture, so it’s restricted within the city. Where we have run into areas or were involved with that would be when we annex property into the city from one of the townships. Then, we have to work through that. In some instances it may be grandfathered in but... any interest to start a new agricultural operation within the city is currently prohibited” (Justice, 2015, p. 1).

With the city’s current emphasis on bringing in new businesses, West Bend seems determined to distinguish itself from agriculture, which is seen as an activity for beyond the city limits:

“West Bend is a community that’s become economically vibrant again, whether it’s manufacturing or retail/service-based, so I think because of where and how West Bend is surrounded by our townships, which are more rural and have more agricultural farmland, I think whether it was by design or not, I do think there’s a pretty strong distinction of what type of commerce occurs in the city versus what doesn’t occur in the city. And I think it’s pretty well respected or understood that if its an agriculture

based activity for the most part, those interested in that know or understand that they're probably going to go work through the appropriate town or even the county" (Justice, 2015, p. 3).

However, at the same time the city makes this distinction between where agriculture itself should occur or not occur, it embraces its rural setting by specially enabling the sale of agricultural products within the city. First, the city's signature event is one of the largest farmers' markets in the state (discussed below), on which the city government works closely with the event's host.

Secondly, West Bend has a three-tiered system for permitting truck vendors, farmstands and semi-permanent vendors. For instance, the city welcomes truck vendors with simple shelters (e.g. tent-like canopies) to set up in abandoned parking lots or roadside locales with the purchase of an inexpensive seasonal permit. On the other end, more semi-permanent commercial operations require a commercial use permit or site extension plan. A recent example was a larger vendor who wanted to sell seasonal plants and produce from a semi-permanent stand in an abandoned Pick n' Save parking lot. The city required this larger-scale operation to establish a "point of sale" space within the mall, which created the ability to establish an extension of premise into the parking lot.

The West Bend Municipal Code (WBMC) is silent on most all forms of urban agriculture reviewed in this research for the Food Policy Audit beyond point-of-sale regulation. For instance, it does not mention bees, chickens, community gardens, commercial composting, or agricultural scales in general. The city prides itself on being

receptive to citizen requests as they arise, particularly as it attempts to repair a past administration's reputation for being stagnant and unresponsive.

“[W]e like to work with new concepts, new ideas... We try to listen to the customer and make reasonable recommendations whether it's to the planning commission or to the city council. And if we need to make a change within our code or our policy, we're always more than willing to support that” (Justice, 2015, p. 5).

The city is seeking a new reputation as pro-business and economic development. To accomplish that, they're changing their response to new citizen proposals and ideas:

“Let's find a way to make this happen' rather than 'let's make this as difficult as we can' ...Whether it's agriculture or manufacturing, if someone's willing to come into your community and invest money and their own blood, sweat, and tears, and it's something that we think is good for the city, we need to find a way to help enable that and encourage that, as opposed to discouraging it or making them feel unwanted...” (Justice, 2015, p. 13).

In fact, the city is undergoing a several-year effort to conduct a “top-to-bottom review” of its zoning code (Justice, 2015, p. 12). In this process, they are considering the issues that have arisen either formally or informally through citizen input. For instance, West Bend currently does not allow the keeping of chickens within the city limits. A citizen recently approached the planning department with a request to reconsider that. The city, interested

in the idea, placed the citizen on the agenda of the next city council meeting. However, this potential ordinance change is still in process because the citizen asked to withdraw her request until a further date, when she could better research her proposal.

(Justice, 2015).

West Bend Community Gardens

The City of West Bend contains two community gardens, which are run by the Washington County Master Gardeners and the Ozaukee County Master Gardeners. Each garden is entirely volunteer run, both by the Master Gardeners and the participating gardeners on individual plots. One is a smaller garden located on the private property of the Community Church in West Bend; the other, the Washington County Community Garden (WCCG), is situated within the city but on one acre of land rented from the county. There is no written lease to the land, which would involved two counties and thus some complexity, but the Master Gardeners believe informally that they may use the land for at least five years more (Reilly-Kliss, 2015).

It has been in existence since 2007, when Mary Reilly-Kliss, an Ozaukee County Master Gardener, founded it in Washington County because there were no existing horticultural services in the county. The City of West Bend is largely uninvolved with the gardens. “The City was approached when the program was on the drawing board, but it was not really interested” (Reilly-Kliss, 2015). However, the city does rent a water meter to the WCCG each season to hook up to a city water source, charging them the ordinary municipal rate for usage. In addition, the city’s forestry department also delivers wood chips to the gardens at no charge. “Everything else including administration, water tank

filling, on-site maintenance[,] etc., is provided by the gardeners and Master Gardener volunteers” (Reilly-Kliss, 2015).

The Washington County Community Garden now includes 78 garden plots tended by over 100 gardeners throughout the growing season for a fee of \$25.00 per plot. One plot is reserved for a summer school group of 18-20 year-old teenagers with developmental disabilities. The Master Gardeners encourage all gardeners to donate excess produce to the local food pantry, and themselves tend to one plot that is harvested entirely for the food pantry. While it is difficult to track the exact amount donated by WCCG gardeners, Reilly-Kliss estimates the food pantry received at least 200 pounds last year (Reilly-Kliss, 2015).

The Master Gardeners have been especially thrilled with the renewed interest in community gardening they’ve received from young, inexperienced gardeners. Vicky Hopp, President of the Washington County Market Gardeners, says

“I would say many of them are first-time gardeners... [T]he whole thing now with knowing where your food comes from has really taken off finally here in the Midwest. A lot of people want to grow their own produce... In my class of new Master Gardeners, I had four people who were under the age of 25 and not one single one of them had ever gardened in their life... which I felt was really kind of fascinating because they had never grown a plant and they all lived in apartments... They wanted to know how to plant a plant” (Hopp, 2015, p. 7).

The Master Gardeners also treat the community garden as a tool for educating gardeners on new or progressive gardening techniques (e.g. chicken-wire potato plantings to avoid common potato diseases) and unique plant varieties.

Overall, the Master Gardeners see the community gardens as providing social utility to the community of West Bend in many ways:

“Community garden programs are like classrooms in that so much of the really important things which happen there, the "affective" elements if you will, cannot be measured. Our gardens provide social interaction, education, family time, physical activity, and relief from the stresses of daily life... Observers may see planting, continual weeding, and frustration over growing conditions (e.g. too much rain, not enough rain, cold temperatures, hot temperatures) as lots of hard work, and it is. However, it is also pure joy--friendships are formed, homegrown food is put on the table, and there is always hope for next year if the crops don't come in as planned...” (Reilly-Kliss, 2015).

West Bend Farmers’ Market

One of West Bend’s signature events is its weekly farmers’ market. Believed to be the second largest in the state, the market boasts over 75 vendors and spans approximately four city blocks in the heart of downtown West Bend each Saturday morning from May to October (DWBA, 2015). Since 1980, it has been run by the Downtown West Bend Association, a non-profit corporation that uses the proceeds from the market to self-sustain the market and support other downtown events. The DWBA

carefully balances the types and variety of vendors allowed into the market. For instance, while there are several not-yet-filled spaces for this season, there is a waiting list for produce vendors because the DWBA feels the market may oversaturate with produce vendors (Boone, 2015). The DWBA also reserves four vendor spaces for rotating non-profit organizations and six spaces for downtown businesses. Some vendors travel from over two hours away each week.

Each year, the DWBA receives a group event permit from the city to host its farmers' market for the season. "We have a very good relationship with the city and they've been very supportive, so we're very thankful for that" (Boone, 2015, p. 7). The farmers' market draws up to 2,000 attendees each week, benefiting the city as a whole:

"We have a lot of people who will drive up from all areas of the state to come to the market and I'm sure that that gets them to spend more time in West Bend, whether it's downtown or outside of the market" (Boone, 2015, p. 7).

Two years ago, the farmers' market significantly grew in size, with the approval of the city. The DWBA applied to the city for an expansion of its perimeter, increasing the length of city streets that would have to be closed for the event. The city approved the request without hesitation (Boone, 2015). With this recent growth, the farmers' market is "at our capacity for what we can do space-wise. What we can do right now should suit us for quite a while" (Boone, 2015, p. 7).

A subject touched on by just one interviewee in this research was the growing population of Hmong farmers near West Bend. These farmers tend to farm on small rented acreages between West Bend and Hartford, Wisconsin. While the city believes its

Hmong population to be rather small at this time (Justice, email communication, June 17, 2015), four Hmong farming families do have a long-standing presence at the West Bend Farmers' Market (Boone, 2015). This seems to parallel the overall growth of the Hmong population in southeastern Wisconsin, particularly in Milwaukee County (University of Wisconsin Extension and Applied Population Laboratory, 2000).

E. Summary of Food Policy Audit Results Across Case Studies

There were many similarities and several stark contrasts between the four cities in the Food Policy Audit. For the most part, they shared the same characteristics in the “Sustainable Agriculture and Environmental Impacts” category, which focused on laws for compost and rainwater harvesting. All four cities offered a yearly or twice-yearly yard waste composting service, while food waste remained unaddressed in the zoning code. Waukesha was the only city to explicitly limit compost bin size on residential lots, and no city specifically addressed rainwater harvesting, though it was often unofficially encouraged.

The “Urban Agriculture” section of the Audit differentiated the four cities the most. It was under this section, which examined laws for community gardens, urban farms, backyard chickens and more, that Racine clearly excelled. It was the only city to expressly define and permit community gardens, to allow residents to keep chickens and bees, and to permit the on-site sale of unprocessed agricultural products at the point of production. A major difference in this category was also the availability of Community Development Block Grant funding to support community gardens in Racine. No other

study city has made funding available to local agriculture projects. This was a major factor differentiating Racine from the other three cities.

The “Home Gardening” category of the Food Policy Audit did not reveal any major differences among the study cities. Residents of each city are generally allowed to garden in their front, side, and rear yards, but not in rights-of-way. At least in West Bend and Waukesha, there existed a mechanism to allow right-of-way plantings on a case-by-case basis, but the process had been utilized minimally and for non-edible gardening, not for growing food. Finally, there were several key differences in the “Traditional Agriculture and Rural Land Use” section, which focused on more traditional farmland preservation and seasonal farm stand sales. West Bend excelled in permitting small, seasonal “pop-up” farm stands at various locations around the city. Racine, again, was a leader in allowing on-site produce sales from community gardens. Mequon was the only city to have a transfer of development rights (TDR) program in place. Although it has been rarely used to date, the TDR program could prove valuable if development pressures continue to grow in the city. No other city had a mechanism in place to actively preserve agricultural land for food production along its perimeter.

V. ANALYSIS AND DISCUSSION

The preceding four case studies were initially undertaken to (1) determine how cities in the metropolitan region of Milwaukee are or are not accommodating urban agriculture in their jurisdictions through their zoning and land use, and (2) consider these cities in a regional context, examining how they are or are not poised to contribute to the Milwaukee regional food system. I accomplished this through first analyzing each city's zoning and land use laws and policies, and then conducting selective interviews of local food and agriculture activists and practitioners. This helped me determine the extent of existing agricultural activities happening in each city, whether or not those were permitted, implicitly accepted, or prohibited by local laws and regulations, and how the city perceived itself in the regional food system of Milwaukee.

After completing an analysis of each city individually, it is clear that the four cities have very different levels of urban farming, community gardening, full-scale agriculture, and home gardening occurring within their city limits. Not surprisingly, the city governments in turn have varying levels of interest in these activities and initiative to intentionally make their local laws and regulations reflect the activities already occurring or likely to occur within their jurisdictions.

Of the four study cities, Racine is the most progressive in its embrace of community gardening and other community-enhancing food and agriculture endeavors. These focused on fostering relationships within a dense, urban setting. That is, Racine heavily emphasizes the type of small-scale food production—community gardening—that best develops a sense of community, camaraderie, and renewal for troubled urban

neighborhoods. It is also proactive about making its municipal code reflect the agricultural purposes that are already existing or that it hopes to encourage, like produce sales from community gardens to help alleviate Racine's food deserts, urban chicken and aquaculture ordinances, and explicitly permitted community gardens.

Racine is a prime example of a city with a strong, central contingent of dedicated citizens creating organizations, start-up projects, and community efforts that complement one another to foster a local food system. There is a clear concentration of activity on local food and agriculture, community gardening, and funding to support start-up, small-scale food producers and processors. The most prominent of these many projects—RUGN, SEED, and the Wild Root Market—share a common story of growth from a small group of concerned Racine residents who envisioned a change in their community and were able to access guidance and resources to pursue it. In at least one case, that of RUGN, the inspiration to resort to urban agriculture originated from the proximate example of Growing Power in Milwaukee. Thus, mere awareness of and access to the experience and knowledge base of Milwaukee's many urban agriculture projects may be partially responsible for the progression of Racine's more localized movement.

In turn, the City of Racine is vocally supportive of the projects and, at least in the case of RUGN and potentially Wild Root Market, is willing to use city funding to more solidly kick-start them. The city enthusiastically permitted innovative ideas like the year-round farmers' market and the aquaculture project; these projects ultimately failed not because of lack of city support, but because of internal business stresses. As is the case for many start-up organizations, however, RUGN's concern of long-term funding is ever-present and may present challenges to the organization's growth and stability. Much of its

success may depend on its ability to transform from a large organization dependent on volunteers to one self-sustaining through at least a small paid staff. This is simply another way of saying that, although Racine has been highly successful through its contingent of committed volunteer citizens, it's success may continue to depend on that core, or wax and wane with it.

In contrast, Waukesha's local food and agriculture scene is driven largely by city and government leaders hoping to inspire interest and "ownership" in a thus-far mildly interested community of citizens. The community development staff of the City of Waukesha appear highly interested in and receptive of fostering a local food and agriculture scene in Waukesha, but have been underwhelmed by residents actually wanting to initiate or take part in potential projects. While the community enthusiastically supports the well-established Waukesha Farmers' Market, it is slower to seek progressive home gardening ordinances like backyard chickens or bees, or to seek community gardens in public spaces like parklands. This receptive city staff mindset, however, is likely a more recent development evidenced by the fact that just two years ago the parks department itself was uninterested in hosting gardens on public parklands.

In fact, the impetus to establish community gardens at all in Waukesha first emanated from a determined and passionate group of Master Gardeners at the Waukesha County level. They have achieved great success and an eager following in establishing two community gardens, which not only serve their respective neighborhoods but reach out to particularly needy populations like hospital patients and county jail inmates. The success of these community gardens has been punctuated by the visible city and county support of elected officials, hospital and jail staff members, and the community at large.

The city hopes to see these community garden models replicated in other target areas like the downtown neighborhood, which is currently experiencing a revitalization of young urban residents while still lacking a central grocery store. The city would like to see this influx of people push for changes downtown, like establishing urban agriculture projects on city-owned vacant lots. The new, soon-to-open downtown restaurant that is interested in rooftop beekeeping and renting a neighboring vacant lot to supply its own produce may help to spearhead downtown revitalization and serve as a test case.

Thus, with a supportive city government and existing pockets of enthusiasm like the farmers' market, two community gardens, and new downtown restaurant, Waukesha has overall potential for growth in the areas of local food and agriculture; this study may have caught Waukesha in its infancy in these areas.

Mequon is a low density, high open space community that clearly prides itself on and values its rural character. It depends on its open-space reputation for much of its growth, and has at least a significant contingent of residents interested in local and sustainable agriculture as evidenced by Mequon's high share of Outpost Natural Foods member-owners. The author's interview with city government, however, revealed a clear divide in feeling between Mequon community members and their government. The Mequon city staff—at least its Assistant Director for Community Development—was less than enthusiastic about agricultural preservation within the city, emphasizing the very limited impact of its transfer of development rights program and the county's recent Land Evaluation and Site Assessment report. This seemed to indicate a city government begrudgingly complying with the prevailing sentiment of its residents to keep the city rural, less dense, and partially agricultural.

But city government attitude aside, Mequon nonetheless has a quite active local and sustainable food and agriculture scene. This may be a result of sheer proximity to many small-scale growers and producers, coupled with a populace that generally supports natural resource preservation and therefore inclines toward sustainable agriculture. The new location of Outpost Natural Foods may further this connection between local farmers and producers and the community. Mequon is also the most affluent of the cities studied here. With large residential lots and a 47-square-mile land area, there seems to be little interest in collaborative agriculture projects among residents, like community gardens. Therefore, while it is not as likely to foster grassroots citizen movements as has been the case in Racine, Mequon is overall poised to continue to be a hub of support for local and sustainable agriculture.

West Bend does not appear to have significant citizen pressure to permit or develop agricultural uses inside its city limits. This may be due to the fact that it is situated within a rural setting, without being land-locked by development or land pressure. The city simply does not feel a need to allow the surrounding agricultural land uses into the city. In turn, local residents have only infrequently pursued changes to the zoning code, like the potential backyard chicken ordinance that may (or may not) come to fruition. The current city government appears accommodating and receptive to changes, particularly as it attempts to completely overhaul its zoning code, but has no actual policy to proactively accommodate urban agriculture within the city limits. It is content with a case-by-case approach. At the same time, its rural character creates much of its charm in comparison to other cities in the Milwaukee region, and West Bend is aware that this accounts for at least some of its recent population growth. In the future, therefore, West

Bend may feel a greater need to “capitalize” on agriculture, allowing more uses within the city and better fostering existing projects like the farmers’ market and community gardens.

In terms of the first objective of this thesis—to analyze local land use and zoning laws in the study cities—the cities varied greatly. I originally did not expect to find a large amount of traditional agriculture occurring within these cities, and I did not find it. With the possible exception of Mequon, there is simply not space for such things within city limits. What I did originally expect to find were more ordinances enabling non-traditional urban agriculture, like small-scale livestock, community gardens, rooftop gardens, and accommodations for things like hoopouses. I expected these types of ordinances to be a natural reaction to the close and prominent example of Milwaukee’s thriving urban agriculture scene, which these four cities ultimately surround. I did find these things somewhat, at varying degrees and scales in each of the four cities. While Racine, Waukesha, Mequon, and West Bend simply do not have the robust set of laws of the City of Milwaukee, Racine is quite progressive in striving toward that and all four cities have at least some level of awareness of how they can promote urban agriculture through their local zoning codes.

A widely held axiom among food systems researchers is that the absence of policy is policy. Where cities like Waukesha, West Bend, Mequon, or even Racine do not have official laws or policies in place enabling local and sustainable food and agriculture within their cities, those cities have implied laws and policies against it. All four cities studied here demonstrate that even in the absence of enabling laws and policies, activists and practitioners are already engaging in these agricultural activities. The ultimate growth

and development of the scene in each community therefore may depend on whether each local government decides to embrace this and adopt appropriate laws and policies, or continue to hope that scene will blossom in the absence of express law and policy.

The absence of express law and policy not only affects the potential for urban agriculture within each of the four study cities, but also sheds a wider light on the still-developing Milwaukee regional food system. The second objective of this thesis was to generate an understanding of how these four cities contribute to a Milwaukee regional food system, determining whether they impact the persistent food problems in the City of Milwaukee itself. Do these cities see themselves as participants in a regional food system, and are they envisioning a role in alleviating Milwaukee's food issues? On one hand, the research revealed that the local governments of the four study cities, with the possible exception of Racine, are not effectuating law and policy with an eye toward contributing to the regional food system. If these cities do develop law and policy to support urban agriculture at all, they do so with an inward focus and a clear sense of separation from Milwaukee, distinguishing their goals and motivations from those of the City. This finding is not particularly surprising, perhaps because municipalities within metropolitan regions often seek to insulate themselves from the struggles of the region's core urban center. In fact, in many cases it can be argued that that has been the urban periphery's fundamental purpose—to create communities insulated from troubled cities. Where this thesis asked whether official local law and policy is developing to support the Milwaukee regional food system, the answer was definitively in the negative.

But where local law and policy are absent, non-governmental actors are stepping in and a trend toward a regional food mindset is clearly underway. Where these four

cities have strong food and agriculture practitioners and activists, those actors demonstrate an understanding of their position within the regional context, draw inspiration from other regional actors, and present a clear vision of how the Milwaukee region can better support the City of Milwaukee itself.

This was clearest in Racine, where both the city government and the non-governmental actors tended to look toward Milwaukee as a guidepost. Not coincidentally, Racine is also the one city of the four studied that perhaps has the most key characteristics in common with Milwaukee. Racine interviewees cited persistent food deserts, poverty, and crime as some of their main concerns precipitating urban agriculture and food production. These are issues Milwaukee shares. Racine's sense of common experience with Milwaukee, therefore, may be what makes Racine more willing to share in creating a Milwaukee regional food system.

In juxtaposition to Racine, West Bend was the most reluctant to share in regional identity with Milwaukee and thus did not envision itself as a player in a regional food system. The local government demonstrated a somewhat separationist attitude, distinguishing itself from Milwaukee. Its non-governmental actors similarly did not relate to Milwaukee. Given West Bend's relative distance from Milwaukee and its rural character and charm, it isn't difficult to understand why West Bend is a hesitant participant in the regional food system.

Waukesha and Mequon fall somewhere in between, with local governments somewhat attuned to their role as potential players in the regional food system and non-governmental actors who have a budding sense of possibility. In Mequon, there is decidedly more local agriculture already occurring and Outpost Natural Foods is a

prominent regional actor. Waukesha is still in its infancy stage, but has key city officials and citizens setting out to strengthen the agricultural environment. In each city, the presence of those regionally-minded actors is an encouraging prospect for the future of a Milwaukee regional food system.

Overall, these case studies conclude that the four municipalities have not yet fully bought in as members of a Milwaukee regional food system. I describe this as a tendency against considering the “regional mindset,” instead favoring the inward focus that local governments may seem designed to favor. In one sense, city governments traditionally do tend to focus only within their jurisdictional borders; they are fundamentally tasked with regulating the issues that affect their city residents. But increasingly, governments have recognized that some of their most persistent and challenging issues cross jurisdictional boundaries. Thus, the region has gained importance not just in the food system sector, as discussed in Part II.D above, but in many more sectors like housing and transportation. These are broad issues with effects that are not isolated to single municipalities; instead, they are ripe for engagement through regional coordination.

One method of confronting problems regional in nature is by establishing a specific regional body, or authority, for the sector. This has been particularly true in the areas of transportation and housing, where regional authorities are common, widely implemented, and well analyzed in the literature. For example, see Alexander’s “The Promise and Perils of New Regionalist Approaches to Sustainable Communities” (2011). Regional transportation authorities and regional housing authorities currently exist in metropolitan regions throughout the United States. For instance, Chicago’s Regional Transportation Authority is a local government unit that

oversees the coordination, operations, and finance of transportation in Chicago's six-county metropolitan region (Chicago Regional Transportation Authority, 2015). This includes public modes of transport, from trains to buses, as well as services for handicap or senior residents. The regional authority is comprehensive, cross-jurisdictional, and focused on unified problem-solving within its specific sector.

That model could naturally extend to regional food systems. Food system issues, like housing and transportation, are persistent across closely situated municipalities. They could benefit from intergovernmental cooperation through a regional authority. This has been contemplated, though not yet implemented, in at least one other metropolitan region in the United States. In the recent comprehensive food system study "Growing Together" conducted in the Buffalo-Niagara region of New York, Raja et al. suggested the formation of a regional food policy board to facilitate food system planning for the region (Raja et al, 2015). The regional board would draw on resources such as existing local food policy councils, extension agents, and the Farm Bureau. The authors suggested an immediate goal of the regional council would be to establish an online food system database for the region, which would benefit producers, food- and agriculture-focused organizations, and end consumers alike (Raja et al., 2015).

Once a regional food authority is established, its first step would be to identify areas of poverty, inadequate food access, and nutritional deficiency throughout the region. These "targets" areas would provide the basis for which the regional food system would be organized around—where the regional food authority would be outcome-focused. After identifying areas of need, the regional food authority would consider areas of strength in each facet of the food system: from the production, processing, distribution,

and consumption of food to the reclamation of food waste. Each point in the system would need to be addressed first individually. For example, which parts of the region are most capable of producing food on a scale that could support the region? Which areas are naturally situated to serve as aggregation and distribution points? Where would most of the food waste be generated, and how could it be transported to large-scale reclamation sites? It is after identifying those areas of strength and need and considering each point in the food system chain that the regional food authority would be able to dive into specific problem-solving methods.

We have not yet seen a regional food authority in a metropolitan region in the United States. Milwaukee may be poised to be a leader in this, due in part to the existence of the Southeastern Wisconsin Regional Planning Commission. The Southeastern Wisconsin Regional Planning Commission, or SEWRPC, was formed in 1961 to “help solve problems and to focus regional attention on key issues of regional consequence” (SEWRPC, 2015). It focuses on the seven-county Milwaukee region, and puts forward recommendations for regional land use, housing, transportation, parks and open space, and the environment. The existence of SEWRPC signals the propensity of the seven counties of southeastern Wisconsin to collaborate as a region. SEWRPC could be a key player in helping to facilitate the adoption of that same regional mindset for a Milwaukee regional food system.

I envision a Milwaukee Regional Food Authority with the powers of a local government unit. The Authority would be tasked with facilitating a sustainable, efficient, and effective regional food system in the seven-county Milwaukee region. The Authority would address each point of the chain, from production to waste reclamation, with a

focus on alleviating inequality in food access, food deserts, and malnutrition. I envision sustainability to be a major, driving factor in the Authority's considerations, ensuring that its food system is built on practices and models for stable long-term results instead of quick fixes.

To be effective, the Authority's composition would have to be democratically representative of the region, with a strong contingent of representatives from the areas of identified need. This would be important to ensure that the dominant actors in the food system—say, a highly productive agricultural municipality without significant need—would be unable to unduly influence the Authority's decision-making in favor of its own interests. Though potential for power imbalance is inherent to regional bodies, The Milwaukee Regional Food Authority could balance its many municipalities effectively as existing housing and transportation authorities have done across the nation. If a Milwaukee Regional Food Authority does in fact come to fruition some day, cities like Waukesha, West Bend, and Mequon are naturally poised to become leading food producers due to their relative space for agricultural production. Conversely, a dense, high poverty city like Racine could naturally lend itself to being a food aggregation, processing, and distribution hub that would infuse the community with new employment opportunities. Each individual municipality in the Milwaukee region could step into its new role with the strength and power of the Authority, and hence the region, behind it.

In discussing a regional food system with local government officials in Waukesha, Racine, Mequon, and West Bend, it was clear that the concept of something as radical as a Milwaukee Regional Food Authority is far from their minds. This seems natural, as a new, unprecedented regional authority would involve a major adjustment in

governmental power and responsibility. However, I found that a budding regional mindset already existed with the local food and agriculture practitioners and activists I interviewed in each city. They more clearly saw their position in not just their city, but in the Milwaukee region. They were already willing to look across borders for solutions without regard to politics or questions of power. In most cases, they are already implementing their visions for food and agriculture ahead of any local law or policy enabling it. They are much more likely to acknowledge themselves and their activities as positioned within a regional food system, and see themselves as possible contributors to alleviating food issues beyond their own immediate municipality.

That finding holds promise for the future development of a Milwaukee Regional Food Authority. Local non-governmental actors, like the citizens I interviewed here, are driving their local governments to think about food and agriculture more and more. They are acting ahead of law and policy, and ultimately influencing the way that law and policy develops. If that tendency remains true, then their inclination to think regionally may also soon influence their local governments to consider regional food system coordination. Their persistent practice and influence could guide local governments, including those of Waukesha, West Bend, Racine, and Mequon, to the regional coordination needed to facilitate an effective, sustainable, and resilient regional food system.

VI. LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This research attempted to use four case studies to establish a picture of local agricultural food production within major cities surround Milwaukee. There are inherent limits to the case study approach. First and foremost, the small sample set of cities prohibits extrapolation to all cities in metropolitan Milwaukee. While Racine, Waukesha, Mequon, and West Bend are communities with highly diverse characteristics from one another, they are not necessarily representative of the entire population of cities in that region. Therefore, each case study should be taken as a silo—a representation of itself and only itself.

In addition, the approach to selecting interviewees and organizations to participate in the research was a subjective process. Candidates were identified by word-of-mouth recommendation of individuals more familiar with food and agriculture activists and practitioners in the Milwaukee area. The breadth of interviewees selected was not necessarily representative of all activists and practitioners in the area. Also relevant was the timing of this research, which significantly overlapped with the start of the outdoor growing season in southeastern Wisconsin. Had the research occurred in the off-season winter months, I may have had greater access to individuals and organizations engaged in food systems work.

The purpose of this research is exploratory in nature. That is, smaller cities within metropolitan areas dominated by a population center like Milwaukee have been frequently overlooked in the existing food system literature. The increased academic focus on the region in food systems research has highlighted the fact that we don't know

the extent of what is occurring in smaller surrounding cities. This thesis may operate to shed initial light on those cities, but it is just that—an initial inquiry.

Many relevant research questions arise from the results here. First and foremost, these four isolated case studies beg the question of what other types of municipalities—towns, villages, and counties—around Milwaukee are doing in terms of their laws and policies to support agriculture. What is the current norm in municipalities in the region as a whole? A survey of more municipalities, and more types of municipalities, would better represent the whole scale of agricultural production occurring in the region. Which municipalities are the most progressive in their laws and policies and why, and similarly, which laws and policies are most effective for promoting urban/suburban agriculture and why? Research honing in on the best models in a particular region can provide useful guidelines for similarly situated municipalities.

As always, it is difficult to pinpoint cause and effect relationships and this research was no different. More research is needed to determine what drives the changes in local law and policy for agriculture in these municipalities. The case study model could only serve as an observation of what *was* before in each of these cities and what *is* now. A more detailed research method could attempt to isolate causal factors in each instance. That approach could better explain the best approach for how local law and policy should play out to be the most effective.

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APPENDIX A

Tables of Results

Table 1. City of Racine Food Policy Audit.

	Results	Notes
Sustainable Agriculture and Environmental Impacts		
Does the locality allow storage and pick-up of compostable items at commercial establishments?	Yes	Private collectors must be permitted via § 78-61.
Does the locality allow commercial composting or anaerobic digester facilities for food waste recycling?	Silent	
Does the zoning code allow community gardens and urban farms to bring food waste from off-site sources for composting?	Silent	In practice, the City does not ask in its community garden permit process whether compost facilities will accommodate off-site organic waste (Broadstone, 2015).
Does the locality offer a central site for composting home food and yard materials?	Partial	Yard waste only.
Does the zoning code define and classify commercial or industrial scale composting operations?	No	
Does the locality have a compost pick-up program that processes food waste for recycling? Or does the locality provide another method of recycling/disposing of non-edible food waste?	No	
Does the zoning code permit rainwater harvesting systems (above and below grade) or recycled water for irrigation purposes where agricultural uses occurs?	No	
Urban Agriculture		
Does the zoning code provide a clear definition of urban agriculture use with reference to types and scales of operation?	No	
Does the zoning code allow agricultural uses in institutional and park districts for non-commercial food production?	Yes	§ 114-428 (conditional use).

Does the locality support efforts to utilize public parkland or open space for food production?	Yes	The City approached RUGN several years ago about placing community gardens in some public parks. RUGN has been only moderately successful in doing so (Flynn, 2015).
Is the locality currently employing or considering a “joint use” agreement to open the use of school land for food production?	No	
Does the locality sponsor or work with an area community/conservation land trust or land bank in setting aside land for community or nonprofit gardens?	No	
Does the locality support the establishment of community gardens and orchards for residents of affordable housing developments?	Yes	This is RUGN’s mission, supported by the City (Flynn, 2015).
Does the locality implement "edible landscapes" in tandem with urban forestry or landscaping efforts?	No	
Is there a policy, program or map to encourage foraging from unused sources on publicly accessible land?	No	
Does the zoning code allow for temporary and conditional use of vacant lots for neighborhood gardens and/or urban farms?	Yes	See, e.g., § 114-568.
Does the zoning code allow for construction of accessory structures where food production is considered a primary use?	Yes	See, e.g., § 18-387.
Does the locality support a program to facilitate soil testing, or recommend environmentally appropriate strategies on lands converted to use for food production?	Partial	City requires raised beds on city-owned land (Viton, 2015).
Are there funding streams for urban food production projects, such as Community Development Block Grants?	Yes	The City of Racine provided a \$10,000 grant to start RUGN. Since then, has not provided funds directly but is open to CDBG funds being used for urban agriculture projects.

Does the zoning code permit the keeping of bees and livestock, and/or accommodate aquaculture operations (fish)?	Yes	Bees (§10-43), chickens (§ 10-6), fish (not explicit in code, but has been approved by the city in the past; Vitton, 2015).
Does the locality allow for on-site sale of agricultural products (produce, value-added goods)?	Yes	Produce only, not value-added goods. (§ 22-1261)
Does the zoning code permit specialty classes or educational tours related to agriculture?	Silent	However, RUGN regularly engages in these without interference from City.
Home Gardening		
Does the zoning code permit production of produce within front, side or rear yards, as well as the right of way?	Partial	Front, side, and rear yards but not rights-of-way.
Does the zoning code have restrictions on lawn vegetation height?	No	Not beyond obstructing traffic or pedestrians (§82-1).
Does the locality have restrictions on yard waste (compostable)?	No	
Traditional Agriculture and Rural Land Use		
Does the locality have a policy or program to support land conservation for food production?	No	
Does the locality actively participate with other agencies to support preservation of viable agricultural lands along the metropolitan perimeter?	No	
Are there regulations allowing flexibility for food producers to engage in minimal on-site processing?	No	
Does the zoning code allow for the on-site sale of unprocessed farm products?	Yes	§ 22-1261
Does the zoning code allow for the sale of value-added products at point of production?	No	

Table 2. City of Waukesha Food Policy Audit.

	Results	Notes
Sustainable Agriculture and Environmental Impacts		
Does the locality allow storage and pick-up of compostable items at commercial establishments?	Silent	
Does the locality allow commercial composting or anaerobic digester facilities for food waste recycling?	No	Compost bin size is restricted to volume of 125 cubic feet and five feet tall. § 13.10
Does the zoning code allow community gardens and urban farms to bring food waste from off-site sources for composting?	Silent	
Does the locality offer a central site for composting home food and yard materials?	Partial	Yard waste only. See http://www.ci.waukesha.wi.us/yardmaterial .
Does the zoning code define and classify commercial or industrial scale composting operations?	No	
Does the locality have a compost pick-up program that processes food waste for recycling? Or does the locality provide another method of recycling/disposing of non-edible food waste?	No	
Does the zoning code permit rainwater harvesting systems (above and below grade) or recycled water for irrigation purposes where agricultural uses occurs?	Yes	Rain barrels are permitted throughout the city (Fortin Interview)(http://www.ci.waukesha.wi.us/environmental-andstormwater) and the Tower Hill Community Garden uses several (Wied Interview).
Urban Agriculture		
Does the zoning code provide a clear definition of urban agriculture use with reference to types and scales of operation?	No	Only defines “agriculture.” (§ 22.05(4)).
Does the zoning code allow agricultural uses in institutional and park districts for non-commercial food production?	No	

Does the locality support efforts to utilize public parkland or open space for food production?	Yes	City administration is encouraging the Park, Recreation, and Forestry Department to implement gardens in park spaces and around city buildings. City administration is encouraging use of a vacant lot downtown as a garden for a new restaurant. (Fortin, 2015)
Is the locality currently employing or considering a "joint use" agreement to open the use of school land for food production?	No	
Does the locality sponsor or work with an area community/conservation land trust or land bank in setting aside land for community or nonprofit gardens?	No	
Does the locality support the establishment of community gardens and orchards for residents of affordable housing developments?	Yes	The city recently demolished an old YWCA and developed affordable housing on the city block instead. Gardens, rain barrels, and compost bins were an integral part of the design and implementation (Fortin, 2015).
Does the locality implement "edible landscapes" in tandem with urban forestry or landscaping efforts?	Partial	Not currently. However, the city's Parks, Recreation and Forestry Department hopes to soon implement edible landscapes in planters around City Hall.
Is there a policy, program or map to encourage foraging from unused sources on publicly accessible land?	No	
Does the zoning code allow for temporary and conditional use of vacant lots for neighborhood gardens and/or urban farms?	Silent	However, the city has actively encouraged this (Fortin, 2015).
Does the zoning code allow for construction of accessory structures where food production is considered a primary use?	Yes	

Does the locality support a program to facilitate soil testing, or recommend environmentally appropriate strategies on lands converted to use for food production?	No	However, the city anticipates this may become an issue if city-owned vacant lots are indeed used urban gardening.
Are there funding streams for urban food production projects, such as Community Development Block Grants?	No	Not currently, but the city states it would be open to using CDBG for that purpose (Fortin, 2015).
Does the zoning code permit the keeping of bees and livestock, and/or accommodate aquaculture operations (fish)?	No	
Does the locality allow for on-site sale of agricultural products (produce, value-added goods)?	Yes	City would issue a temporary or seasonal permit. § 22.64.
Does the zoning code permit specialty classes or educational tours related to agriculture?	Silent	
Home Gardening		
Does the zoning code permit production of produce within front, side or rear yards, as well as the right of way?	Partial	Front, side and rear yards, but not rights-of-way.
Does the zoning code have restrictions on lawn vegetation height?	No	
Does the locality have restrictions on yard waste (compostable)?	Yes	Compost bin size is restricted to volume of 125 cubic feet and five feet tall. § 13.10.
Traditional Agriculture and Rural Land Use		
Does the locality have a policy or program to support land conservation for food production?	No	
Does the locality actively participate with other agencies to support preservation of viable agricultural lands along the metropolitan perimeter?	No	
Are there regulations allowing flexibility for food producers to engage in minimal on-site processing?	Silent	
Does the zoning code allow for the on-site sale of unprocessed farm products?	Yes	City would issue a temporary or seasonal permit. § 22.64.
Does the zoning code allow for the sale of value-added products at point of production?	Yes	City would issue a temporary or seasonal permit. § 22.64.

Table 3. City of Mequon Food Policy Audit.

	Results	Notes
Sustainable Agriculture and Environmental Impacts		
Does the locality allow storage and pick-up of compostable items at commercial establishments?	No	See § 66.28(c)(4).
Does the locality allow commercial composting or anaerobic digester facilities for food waste recycling?	No	See § 66.28(c)(4).
Does the zoning code allow community gardens and urban farms to bring food waste from off-site sources for composting?	No	See § 66.28(c)(4).
Does the locality offer a central site for composting home food and yard materials?	Partial	Yard materials only. § 66.28(c)(2).
Does the zoning code define and classify commercial or industrial scale composting operations?	No	
Does the locality have a compost pick-up program that processes food waste for recycling? Or does the locality provide another method of recycling/disposing of non-edible food waste?	No	
Does the zoning code permit rainwater harvesting systems (above and below grade) or recycled water for irrigation purposes where agricultural uses occurs?	Silent	
Urban Agriculture		
Does the zoning code provide a clear definition of urban agriculture use with reference to types and scales of operation?	No	§ 58-8 defines agriculture generally, but not in urban context. Agricultural uses are only permitted in agricultural overlay district.
Does the zoning code allow agricultural uses in institutional and park districts for non-commercial food production?	No	§ 58.353 and 58.354 do not mention gardens or agriculture other than permitting botanical gardens and arboretums.

Does the locality support efforts to utilize public parkland or open space for food production?	No	In 2014 Comprehensive Park, Recreation, and Open Space Plan, resident surveys show community gardens as a desired addition to park spaces, but not included specifically as a goal of the Plan going forward.
Is the locality currently employing or considering a "joint use" agreement to open the use of school land for food production?	No	
Does the locality sponsor or work with an area community/conservation land trust or land bank in setting aside land for community or nonprofit gardens?	No	The city does work with the Ozaukee Washington Land Trust, but not specifically for agricultural lands (Zader, 2015).
Does the locality support the establishment of community gardens and orchards for residents of affordable housing developments?	No	
Does the locality implement "edible landscapes" in tandem with urban forestry or landscaping efforts?	No	
Is there a policy, program or map to encourage foraging from unused sources on publicly accessible land?	No	
Does the zoning code allow for temporary and conditional use of vacant lots for neighborhood gardens and/or urban farms?	No	Does not mention gardens or urban farms in temporary uses (§ 58-173) or conditional uses (§ 58-87).
Does the zoning code allow for construction of accessory structures where food production is considered a primary use?	Yes	Subject to lot size and coverage requirements. (See, e.g., § 58-237 for residential) Limit one in residential districts, more in agricultural.
Does the locality support a program to facilitate soil testing, or recommend environmentally appropriate strategies on lands converted to use for food production?	No	
Are there funding streams for urban food production projects, such as Community Development Block Grants?	No	

Does the zoning code permit the keeping of bees and livestock, and/or accommodate aquaculture operations (fish)?	Partial	Up to four chickens or one head livestock allowed on 1.5-ac lots in certain suburban and rural zones. (§ 58.234-239) Silent on bees and aquaculture.
Does the locality allow for on-site sale of agricultural products (produce, value-added goods)?	Yes	In agricultural districts only: § 58-263 through § 58-265.
Does the zoning code permit specialty classes or educational tours related to agriculture?	Silent	
Home Gardening		
Does the zoning code permit production of produce within front, side or rear yards, as well as the right of way?	Yes	
Does the zoning code have restrictions on lawn vegetation height?	No	
Does the locality have restrictions on yard waste (compostable)?	Yes	Yes, but the ordinance doesn't appear restrictive on quantity, just disposal placement (§ 66-28(c)).
Traditional Agriculture and Rural Land Use		
Does the locality have a policy or program to support land conservation for food production?	Yes	TDR program exists (§ 58-332) "to promote citywide preservation of agriculture, rural open space and character, scenic vistas, natural features, and environmental resources for the benefit of Mequon residents." However, no designated sending and receiving areas; the city evaluates on a case-by-case basis.
Does the locality actively participate with other agencies to support preservation of viable agricultural lands along the metropolitan perimeter?	No	
Are there regulations allowing flexibility for food producers to engage in minimal on-site processing?	Silent	
Does the zoning code allow for the on-site sale of unprocessed farm products?	Yes	In agricultural districts only: § 58-263 through § 58-265.

Does the zoning code allow for the sale of value-added products at point of production?	Yes	In agricultural districts only. Not in residential districts, but it could qualify as a "home occupation." (e.g. § 58-237(c)(2)).
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Table 4. City of West Bend Food Policy Audit.

	Results	Notes
Sustainable Agriculture and Environmental Impacts		
Does the locality allow storage and pick-up of compostable items at commercial establishments?	Silent	
Does the locality allow commercial composting or anaerobic digester facilities for food waste recycling?	Silent	
Does the zoning code allow community gardens and urban farms to bring food waste from off-site sources for composting?	Silent	
Does the locality offer a central site for composting home food and yard materials?	Partial	Yard waste only.
Does the zoning code define and classify commercial or industrial scale composting operations?	No	
Does the locality have a compost pick-up program that processes food waste for recycling? Or does the locality provide another method of recycling/disposing of non-edible food waste?	No	
Does the zoning code permit rainwater harvesting systems (above and below grade) or recycled water for irrigation purposes where agricultural uses occur?	Silent	
Urban Agriculture		
Does the zoning code provide a clear definition of urban agriculture use with reference to types and scales of operation?	No	No definition or mention of agriculture at all beyond "home occupation" permit section.
Does the zoning code allow agricultural uses in institutional and park districts for non-commercial food production?	Silent	
Does the locality support efforts to utilize public parkland or open space for food production?	Partial	The city seems to encourage the community garden situated on county land by donating wood chips and mulch.
Is the locality currently employing or considering a "joint use" agreement to open the use of school land for food production?	No	

Does the locality sponsor or work with an area community/conservation land trust or land bank in setting aside land for community or nonprofit gardens?	No	
Does the locality support the establishment of community gardens and orchards for residents of affordable housing developments?	No	
Does the locality implement "edible landscapes" in tandem with urban forestry or landscaping efforts?	No	
Is there a policy, program or map to encourage foraging from unused sources on publicly accessible land?	No	
Does the zoning code allow for temporary and conditional use of vacant lots for neighborhood gardens and/or urban farms?	Silent	
Does the zoning code allow for construction of accessory structures where food production is considered a primary use?	Yes	§ 17.09(5)(b)
Does the locality support a program to facilitate soil testing, or recommend environmentally appropriate strategies on lands converted to use for food production?	No	
Are there funding streams for urban food production projects, such as Community Development Block Grants?	No	
Does the zoning code permit the keeping of bees and livestock, and/or accommodate aquaculture operations (fish)?	Silent	Although city is slated to soon consider a backyard chicken ordinance (Justice, 2015).
Does the locality allow for on-site sale of agricultural products (produce, value-added goods)?	Yes	By conditional permit only. § 17.37(3) and (4): major and minor home occupations.
Does the zoning code permit specialty classes or educational tours related to agriculture?	Silent	
Home Gardening		
Does the zoning code permit production of produce within front, side or rear yards, as well as the right of way?	Partial	Front, side and rear yards but not rights-of-way.

Does the zoning code have restrictions on lawn vegetation height?	No	
Does the locality have restrictions on yard waste (compostable)?	No	
Traditional Agriculture and Rural Land Use		
Does the locality have a policy or program to support land conservation for food production?	No	
Does the locality actively participate with other agencies to support preservation of viable agricultural lands along the metropolitan perimeter?	No	
Are there regulations allowing flexibility for food producers to engage in minimal on-site processing?	Silent	
Does the zoning code allow for the on-site sale of unprocessed farm products?	Yes	By conditional permit only. § 17.37(3) and (4): major and minor home occupations.
Does the zoning code allow for the sale of value-added products at point of production?	Yes	By conditional permit only. § 17.37(3) and (4): major and minor home occupations.

APPENDIX B

List of Interviewees

Racine

<p>Sasha Broadstone Sustainable Food Systems Coordinator RUGN, SEED, and HALO AmeriCorps VISTA</p>	<p>June 4, 2015 Via phone</p>
<p>Chris Flynn Co-founder, RUGN Owner, D.P. Wigley</p>	<p>June 2, 2015 Via phone</p>
<p>Jill Johanneck Associate Planner City of Racine</p>	<p>May 7, 2015 Via phone</p>
<p>Jeff Vitton Community Development Program Specialist City of Racine</p>	<p>May 7, 2015 Via phone</p>

Waukesha

<p>Jeff Fortin Community Development Specialist City of Waukesha</p>	<p>April 21, 2015 Waukesha City Hall</p>
<p>Ann Wied Consumer Horticulture Educator and Community Development Educator Waukesha County</p>	<p>May 12, 2015 Via phone</p>

Mequon

<p>Margaret Mittelstadt Community Relations Director Outpost Natural Foods</p>	<p>June 16, 2015 Via phone</p>
<p>Jessy Servi Sustainability Manager Outpost Natural Foods</p>	<p>June 16, 2015 Via phone</p>

Jac Zader
Assistant Director, Community Development
City of Mequon

June 22, 2015
Via phone

West Bend

Kellie Boone
Events Planner
Downtown West Bend Association

June 17, 2015
Via phone

Vicky Hopp
President
Washington County Master Gardeners

June 4, 2015
Via phone

T.J. Justice
City Administrator
City of West Bend

May 1, 2015
West Bend City Hall

APPENDIX C

Institutional Review Board Approval

Education and Social/Behavioral Science IRB
5/7/2015

Submission ID number: 2015-0372
Title: Urban Land Use and Zoning in Support of Food
Production: The Situation in the Milwaukee, Wisconsin,
Metropolitan Region
Principal Investigator: HARVEY M JACOBS
Point-of-contact: LESLIE FREEHILL
IRB Staff Reviewer: CASEY PELLIEN

A designated ED/SBS IRB member conducted an expedited review of the above referenced initial application. The study was approved by the IRB member for the period of 12 months with the expiration date of 5/6/2016. The study qualified for expedited review pursuant to 45 CFR 46.110 and, if applicable, 21 CFR 56.110 and 38 CFR 16.110 in that the study presents no more than minimal risk and involves:

Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, or quality assurance methodologies

To access the materials approved by the IRB, including any stamped consent forms, recruitment materials and the approved protocol, if applicable, please log in to your ARROW account and view the documents tab in the submission's workspace.

If you requested a HIPAA waiver of authorization, altered authorization and/or partial authorization, please log in to your ARROW account and view the history tab in the submission's workspace for approval details.

Prior to starting research activities, please review the Investigator Responsibilities guidance (<http://go.wisc.edu/m0lovn>) which includes a description of IRB requirements for submitting continuing review progress reports, changes of protocol and reportable events.

Please contact the appropriate IRB office with general questions: Health Sciences IRBs at 608-263-2362 or Education and Social/Behavioral Science IRB at 608-263-2320. For questions related to this submission, contact the assigned staff reviewer.

APPENDIX D

Interview Consent Form

UNIVERSITY OF WISCONSIN-MADISON Research Participant Information and Consent Form

Title of the Study: Urban Land Use and Zoning in Support of Food Production: The Situation in the Milwaukee, Wisconsin, Metropolitan Region

Principal Investigator:

Harvey M. Jacobs
Phone: (608) 262-0552
Email: hmjacobs@wisc.edu

Student Researcher:

Leslie Freehill
Email: freehill@wisc.edu

DESCRIPTION OF THE RESEARCH

You are invited to participate in a research study about the zoning and land use laws and policies of major cities in the Milwaukee metropolitan region. Most specifically, this research will focus on the laws and policies that affect local food production in Racine (Racine Co.), Waukesha (Waukesha Co.), Mequon (Ozaukee Co.), and West Bend (Washington Co.). The research will include city staff and the staff of non-profit organizations connected to local food production. You have been asked to participate because you may have particular knowledge and insight into the local laws and policies affecting food production in your city. The purpose of this research is to contribute to the growing body of food systems research in post-industrial “Rustbelt” cities by extending that literature to the Milwaukee region.

This interview will take place over the phone or at a public place of your request. With your consent, I would like to audio record this interview. If you agree to be recorded, the recording will be transcribed and then destroyed. Transcripts will be kept for at least seven years after completion of the study. Only the primary investigator, Harvey M. Jacobs, and I will have access to the recording and transcripts.

WHAT WILL MY PARTICIPATION INVOLVE?

If you decide to participate in this research you will be asked to engage in an interview with student researcher Leslie Freehill concerning the local land use and zoning laws and policies in effect in your municipality. Your participation will be one session, which will require one hour in total.

ARE THERE ANY RISKS TO ME?

There are no risks beyond an interviewee inadvertently making a statement or expressing an opinion in conflict with statements or opinions of their current employers.

ARE THERE ANY BENEFITS TO ME?

We don't expect any direct benefits to you from participation in this study.

HOW WILL MY CONFIDENTIALITY BE PROTECTED?

While there may be publications as a result of this study, your name will only be used with your consent. If you participate in this study, we would like to be able to quote you directly with or without using your name, title, and agency/organization. If you agree to allow us to quote you in publications, please initial the appropriate statement at the bottom of this form.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS?

You may ask any questions about the research at any time. If you have questions about the research after you leave today you should contact the Principal Investigator, Harvey M. Jacobs, at (608) 262-0552. You may also email the student researcher, Leslie Freehill, at freehill@wisc.edu. If you are not satisfied with the response of the research team, have more questions, or want to talk with someone about your rights as a research participant, you should contact the Education and Social/Behavioral Science IRB Office at (608) 263-2320.

Your participation is completely voluntary. If you decide not to participate or to withdraw from the study you may do so without penalty or any effect on your employment.

Your signature indicates that you have read this consent form, have had an opportunity to ask any questions about your participation in this research, and have voluntarily consented to participation. You will receive a copy of this form for your records.

Name of Participant (please print): _____

Signature _____ Date _____

___ I give my permission to be audio recorded.

___ I give my permission to be quoted directly in publications using my name, title and agency/organization.

___ I give my permission to be quoted directly in publications WITHOUT using my name, title, or agency/organization

APPENDIX E

Interview Protocol

Via Email

Hello, my name is Leslie Freehill. I am a Master of Science student and a law student at the University of Wisconsin-Madison, where I am researching municipal zoning and land use law and policy in peri-urban Milwaukee. More specifically, I am interested in how local laws, policies, and regulations either facilitate or inhibit local food production (or, “urban agriculture”).

My research focuses on the cities of Waukesha, West Bend, Mequon, and Racine because they are four of the most populous cities around Milwaukee, which has gained substantial notoriety for a thriving urban agriculture scene. I would like to talk with you about the policies, laws, and regulations in place in (city name) that affect local food production there, including your perceptions of the local food system generally.

The interview will take approximately one hour, and you are welcome to end the conversation at any point. It may be conducted over the phone or in-person. I will audio record our interview, transcribe it, and then delete the recording. Only the primary investigator, Harvey M. Jacobs, and I will have access to the recording and transcripts.

If you are willing to participate, is there a good date and time that would work for you? Again, this could be conducted over the phone or in-person. If you have questions or would like to set up an appointment for the interview, please respond to this email (freehill@wisc.edu). You may also reach Harvey M. Jacobs at (608) 262-0552.

Thank you in advance! I really appreciate your time.

Via Phone

Hello, my name is Leslie Freehill. I am a Master of Science student and a law student at the University of Wisconsin-Madison, where I am researching municipal zoning and land use law and policy in peri-urban Milwaukee. More specifically, I am interested in how local laws, policies, and regulations either facilitate or inhibit local food production (or, “urban agriculture”).

My research focuses on the cities of Waukesha, West Bend, Mequon, and Racine because they are four of the most populous cities around Milwaukee, which has gained substantial notoriety for a thriving urban agriculture scene. I would like to talk with you about the policies, laws, and regulations in place in (city name) that affect local food production there, including your perceptions of the local food system generally.

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record our interview, transcribe it, and then delete the recording. Only the primary investigator, Harvey M. Jacobs, and I will have access to the recording and transcripts.

If you are willing to participate, is there a good date and time that would work for you? Again, this could be conducted over the phone or in-person, so please let me know which you would prefer. If you have questions or would like to set up an appointment for the interview, please email me at freehill@wisc.edu. You may also reach Harvey M. Jacobs at (608) 262-0552.

Thank you in advance! I really appreciate your time.

APPENDIX F

Interview Questions

- (1) Summarize the state of local food production (i.e. urban agriculture) in your city.
 - a. How would you characterize it? (Minimal, growing, significant?)
 - b. Is there growing interest in urban agriculture or a local food scene?
 - c. Is there local interest in Milwaukee as a region?
 - d. E.g. Backyard chickens, bees, community gardens, farmers' markets, urban farms, composting, rainwater harvesting, urban foraging, land conservation.
 - e. In your perception, how does it compare to other similar cities in the Milwaukee region? How does it contribute to the region?
- (2) Does the city have zoning, a comprehensive plan, neighborhood plans, or policies that deal with urban agriculture?
 - a. If so, how / when did they come into place?
 - b. Would you say municipal laws and policies support, discourage, or ignore local food production?
- (3) Is there a particular department or agency that is tasked with food production issues?

Does the city collaborate with any other bodies on these issues?
- (4) Describe any interactions between the city and those trying to promote urban agriculture within your city.
 - a. Who has catalyzed urban agriculture progress?
 - b. How are they supported (or not supported)?
- (5) Is the city interested in promoting urban agriculture and/or local food production?

- a. Why or why not?
- (6) How often does the city run into issues (positive or negative) related to urban agriculture? What is the nature of these issues?
- a. Why do you think that is?
- (7) Does the city contribute to the Milwaukee regional food system?
- a. If so, how? If not, why do you think that is?
- (8) Are there funding streams in place that support local food production?
- a. E.g. Community Development Block Grants
- (9) Are there other contacts you think I should talk to in order to learn more about urban agriculture in the city or region?